GB

LL21 Controller
24 96W 4A IP20

Lovoline

LL21 Controller 24VDC   Art.-No.: **01090021**

Front   Back

For *ISOLETTE* I-06 Mod 1 Switch mode (SWITCH). Connection to max. 8 LL21 motordrives per group. Installation optional on DIN rail or in flush-mounted box.

Content

1. Short description LL21 Controller 24VDC

LL21 Controller is a control module for **ISOLETTE I-06 Mod1 Switch** and is used to control up to 8 LL21 SMI motordrives in switch mode without SMI communication technology (!).

It can be installed in a deep flush-mounted box or in suitable installation options that ensure electrical safety. An adapter enables mounting on a DIN rail. The functions of the controller are explained below.
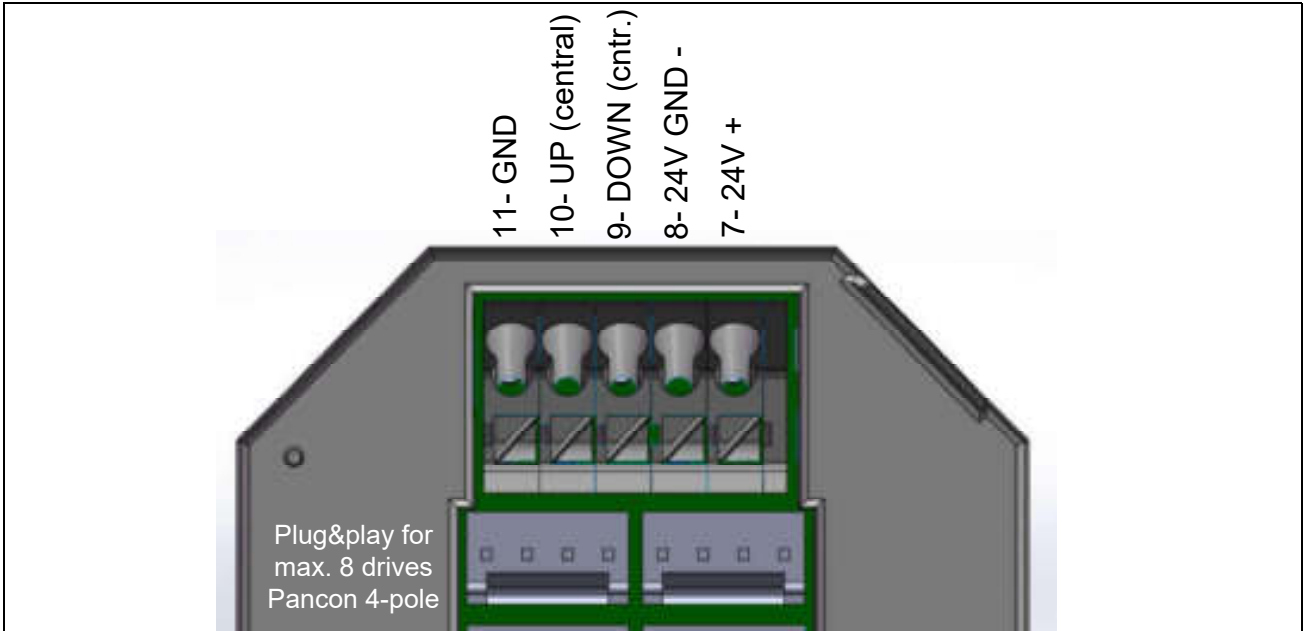
2. Technical data

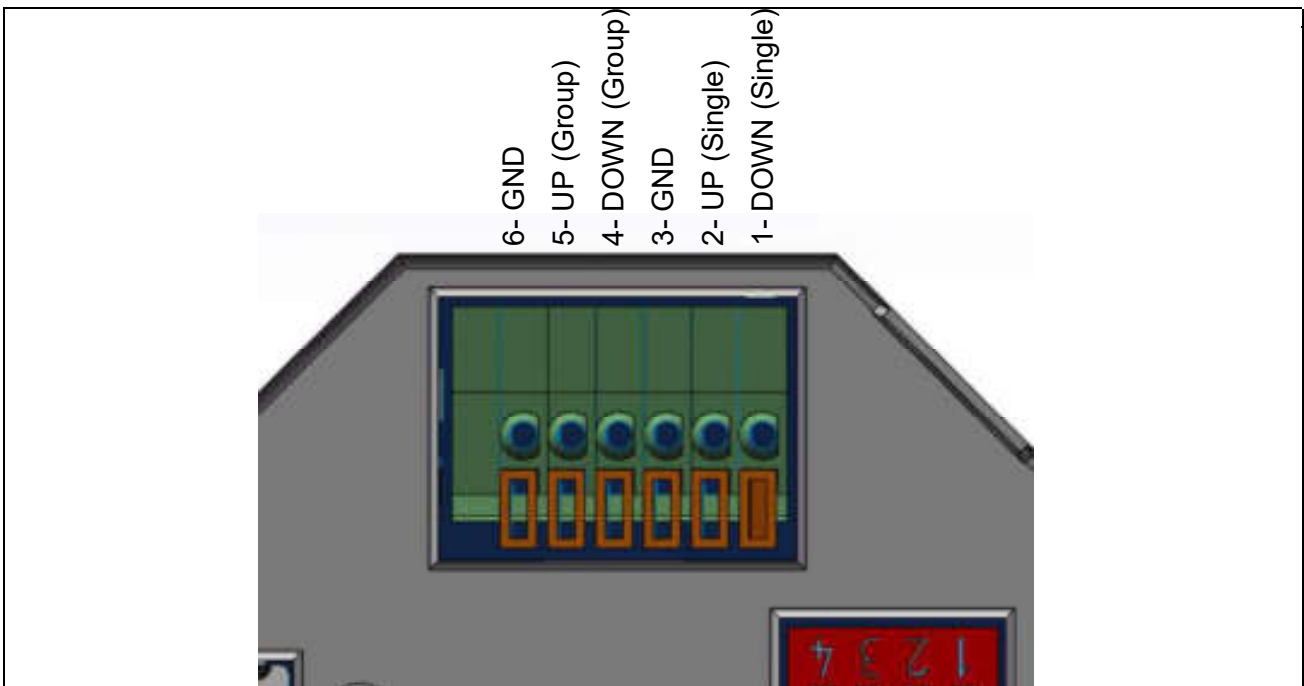|	
Operating voltage:	24VDC
Power consumption:	96W
Output:	96W; 4A during 24VDC (max. 0,5A per connection)
Operating temperature:	0 °C bis +40 °C
Schutzart:	IP 20
Protection class:	III (3)
Dimensions (L x W x H):	36 x 51 x 53mm

3. Connection

The housing has connection parts on the front and the rear side.

On the rear side (Pic. 1) 8 Pancon- (MUSS100-4-D-E) and 5 clamp connections provide space to connect 24VDC power supply and a central control unit. On the front side (Pic. 2) 6 connections provide space to connect group control and single switch.

11- GND
10- UP (central)
9- DOWN (cntr.)
8- 24V GND -
7- 24V +

Plug&play for max. 8 drives Pancon 4-pole

Pic. 1: Connection parts (Rear, lower part)

6- GND
5- UP (Group)
4- DOWN (Group)
3- GND
2- UP (Single)
1- DOWN (Single)

Pic. 2: Connection parts (Front, lower part)

4. Function

4.1. In general

The LL21 Controller 24VDC consists of the following functions:

- Processing of DIP switch and potentiometer settings

- Self-retaining after 3 seconds for group and individual buttons (via DIP switch)

- No self-retaining with central control unit connection

  → Run time is specified by the higher-level controller

- Fix defined "priority control"

  → Parenting and subordination of control commands

Overview of command priorities:

Priorities*	Order type
1	Central command (UP / DOWN)
2	Group command (UP / DOWN)
3	Single command (UP / DOWN)

*1 = highest priority

Special use_only tilting

If the "tilting" function is activated (DIP2 = Off), the motors can only be opened for the tilting time set according to DIP4. Even several opening commands cannot exceed this time in total. If it is shut down for a time, it can then be opened again for this time. The descent is unlimited in time. In the event of a voltage drop, the start-up time is saved.

4.2. LED feedback

The multicolor LED is off in regular operation. A short press of the test button or switching on the voltage displays the current status for 5 seconds.

LED-color	Status
Red – flashing	System error / fault
Yellow – flashing	When driving command is issued
Green	Operational
Green – flashing	Test drive

4.3. Test drive

The test drive is tstarted by a long test button press and includes the following procedure:

1. All blinds move to the lower end position
2. 10 seconds after the last blind has moved to the lower end position, all blinds automatically move back to the upper end position
3. The test ends when all blinds have reached the upper end position

The status LED flashes green during the test drive.

5. Settings

5.1. DIP-Switch

The DIP switches are used to set additional functions.

DIP-Switch	1	Switching on or off the self-locking after 3 seconds of the drive - *Default: ON*
DIP-Switch	2	Switching between "full function" (ON) and "only tilting" (OFF) - *Default: ON*
DIP-Switch	3	Switching on or off the turn command in the lower end position - *Default: ON*
DIP-Switch	4	Switching the turning time from "standard" (ON) to "extend" (OFF) - *Default: ON* *Note: The "extend" turning time is only intended for 25mm slats.*

5.2. Potentiometer

The rotary potentiometer (poti for short) is used to set the slat angle after reaching the lower end position.

The following marks indicate the position of the rotary potentiometer and the resulting position of the slats. It can also be set any other possible position, the resulting angle is then between the specified marks.

MIN	Closed (Slat angle ca. vertical - *Default*)
CUT	Cut-Off* (Slats in shielding position)
MAX	Open view (Slat angle ca. horizontal)
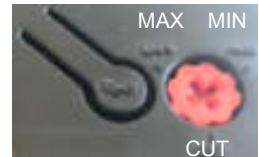
Adjustment of the slats so that no direct sunlight shines through but a view through is still possible.

6. Handling

6.1. Test switch

Short push < 3 Sec.	Status LED shows actual system state for 5 Sec.
Long push > 3 Sec.	Starts test drive
Short push during test drive	Stops test drive

6. Delivery content and topology

7.1. Delivery content

The LL21 controller is packaged and delivered in a polybag.
The attached label contains the article description and the Art.-number.

The package attached are
- Screw and DIN rail adapter
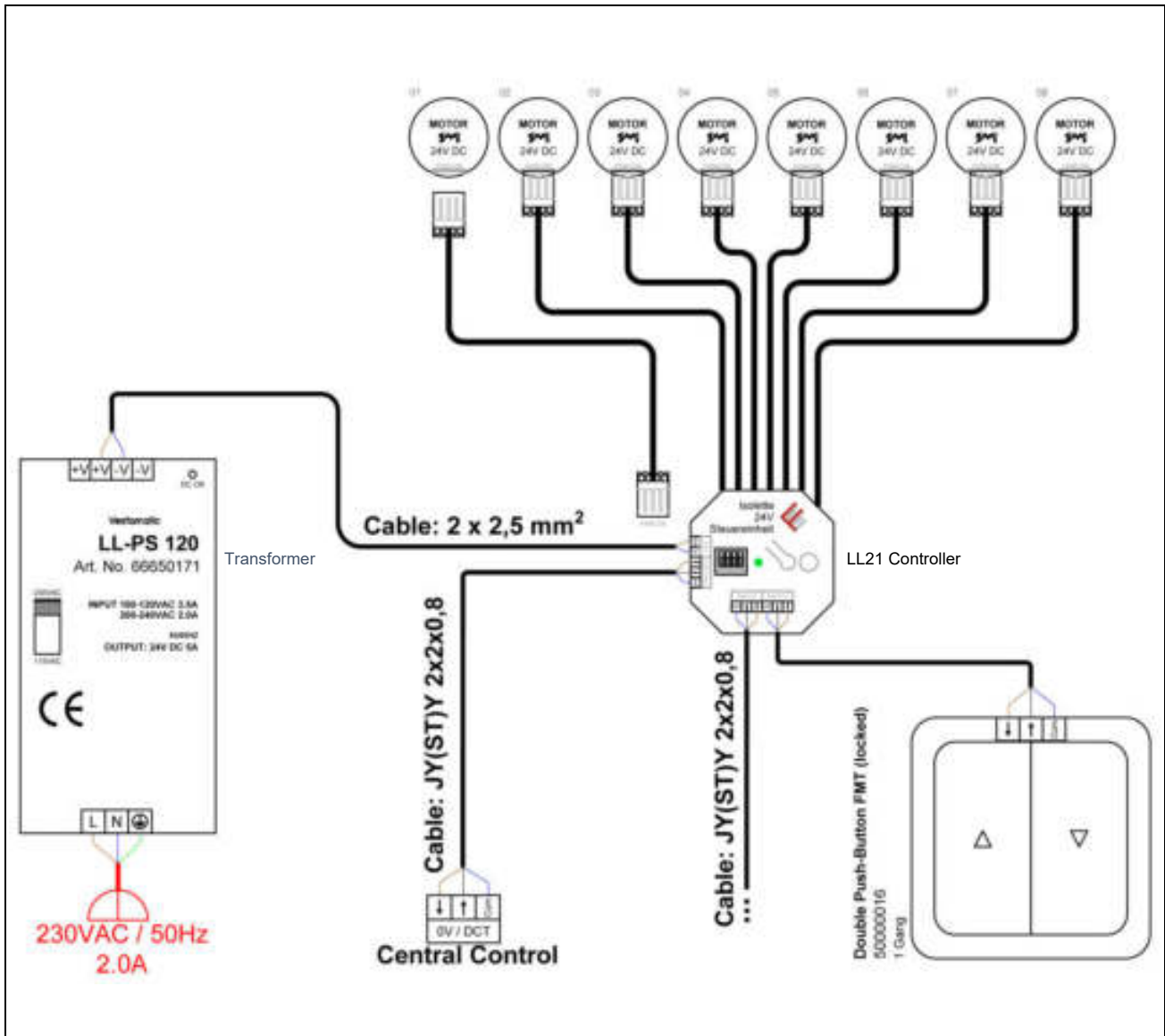- Technical data sheet as package leaflet

The QR code on the leaflet is linked to the product data sheet of the LL21 controller in the download area of the homepage.

Pic. 3: Delivery content: Controller, DIN-rail-clip, tec data sheet, polybag.

7.2. Topology

The example topology shown here corresponds to the maximum possible pin assignment.

Pic. 4: Topology-sample

As an alternative to the button commands, input commands from KNX/EIB actuators for 24VDC drives or low-voltage central controls or radio controls can also be transmitted in switching mode I-06 M1 Switch (ex. Touch Control VRS Art. 01813502).

To attach the DIN rail adapter, the short screw on the underside must be replaced with a long screw that is supplied (See package leaflet).

⚠ **Safety advice!**

– The installation must be carried out by a specialist electrician.

– The controller must be checked upon receipt. In the event of damage, it must not be put into operation under any circumstances. If there is transport damage, the supplier must be informed immediately.

– The controller is only intended for proper use (as described in the operating instructions). Changes or modifications are not allowed, otherwise any warranty claim will be void.

– If safe operation of the controller can no longer be guaranteed, the controller must be shut down immediately.

– If work is carried out on the shading or the components, these must be secured against unintentional operation.

– Technical data can be found on the housing and the package leaflet of the controller.

– Do not allow children to play with electrical components and keep them away from children.

– The entire electrical system must be constantly checked by qualified personnel for any defects or damage.

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