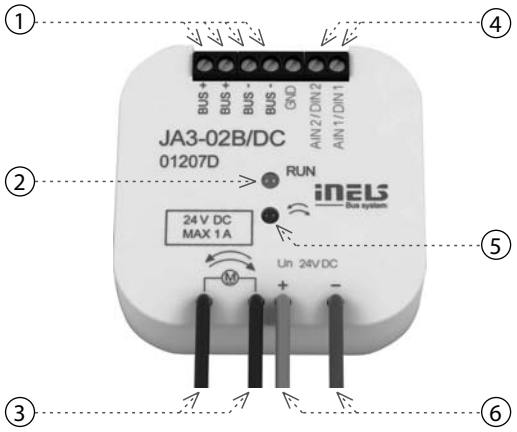
JA3-02B/DC

EN Shutter actuator

Characteristics

- JA3-02B/DC actuator serves to control blinds, shutters, garage doors, entrance gates, etc.
- Operates electrical motors, which are controlled in 2 directions and have a built-in limit switch.
- JA3-02B/DC controls electric drives with supply voltages up to 24 V DC, where the direction of rotation of the driver is controlled by changing the voltage polarity of the motor.
- The unit is equipped with thermal and overcurrent overload protection outputs.
- Status of units is indicated by green LED RUN on the front panel:
  - with the supply voltage connected (through BUS) and the unit is not controlled by BUS, LED RUN shines.
  - with the supply voltage connected (through BUS) and the unit is controlled by BUS, LED RUN flashes.
- Status of output contacts UP/DOWN ( ):
  - while contact UP ( ) is switched, red LED shines (orange).
  - while contact DOWN ( ) is switched, green LED shines.
- The unit is also equipped with two analog digital inputs (AIN/DIN), which can be used to connect two potential free contacts or a single external temperature sensor TC/TZ (see accessories).
- JA3-02B/DC is designed for mounting into an installation box.

Description of device



1. Data BUS
2. LED indication of unit´s state
3. Relay contacts
4. Input for thermo sensor
5. Output LED indication
6. Engine supply voltage

General instrucions

CONNECTION INTO THE SYSTEM

Wires of data BUS of INELS system are to be connected to a terminal block of unit BUS+ and BUS-, it I not possible to change the terminals. It is essential to use a twisted pair of wires for data BUS. Data communication and supply of units are lead in one pair of wires, it is necessary to observe profile for supply wires with regards to voltage loss on the lead and maximal consumed output.

CAPACITY AND CENTRAL UNIT

It is possible to connect two independent BUSes to a central unit CU3-01M (CU3-02M). Such connection is done by terminals BUS1+, BUS1- and BUS2+, BUS2-. To each BUS, it is possible to connect up to 32 units, meaning in total you can connect up to 64 units directly to a central unit. Other units can be connected by using units MI3-02M, that generate other BUSes. These are connected to a central unit CU by a communication BUS EBM. In total you can connect up to 8 MI3-02M units to one central unit.

COMMUNICATION BUS OF THE SYSTEM

The BUS has to be made a cable which is made of twisted pair of wires for data BUS of the system with minimal profile of wires 0.8 mm. Shielded cable needs to be used in case the BUS cables are installed in an environment with a possibility of electromagnetic interference (e.g. in case of side-run with power lead, close to electric machines and devices, when passing NN through a switchboard etc.).

The BUS cable is to be installed in accordance with its mechanic features, that are given by its manufacturer (into a conduit/rail, under a plaster, into a ground, hanging etc.) To increase its mechanical immunity we recommend installation of the cable into an electro-installation conduit of a sufficient profile.

The total length of the BUS for CU3-01M (CU3-02M), or MI3-02M, can be 1100 m (550 m for each BUS). Topology of communication BUS is free except for circle topology.

SUPPLYING THE SYSTEM

To supply system we recommend to use power supplies of company ELKO EP PS3-100/iNELS. We recommend backing up the system with backup batteries connected to the source of PS3-100/iNELS (see sample diagram of connecting the control system).

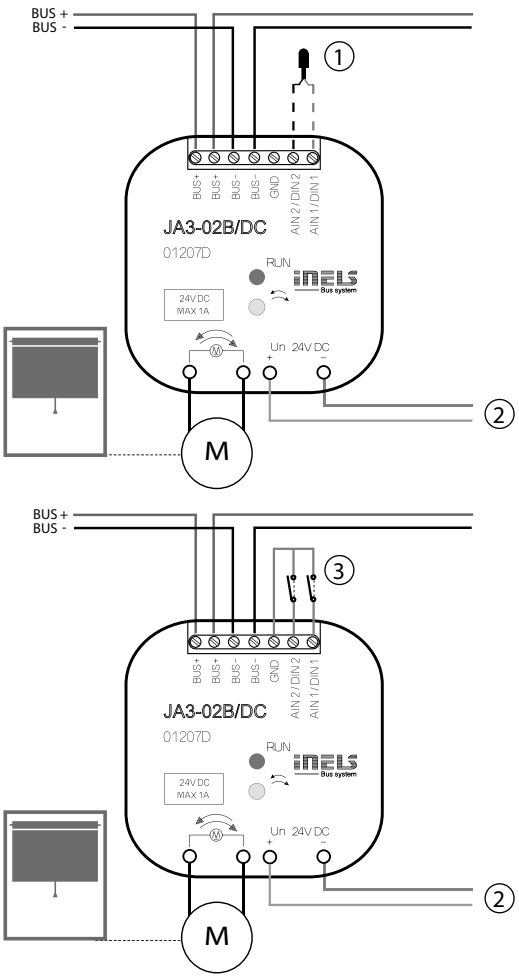
GENERAL INFORMATION

To operate the unit, it is necessary that the unit is connected to a central unit CU3 series, connected to the central unit of the system CU3, or to a system that already contains this unit as its expansion to include further system.

All parameters are set by a central unit CU3-01M (CU3-02M) in software iDM3.

There are LED diodes on the unit front panel, for indication of supply voltage and communication with the central unit series CU3. In case that the RUN diode flashes at regular intervals, so there is standard communication between the unit and BUS. If the RUN diode lights permanently, so the unit is supplied from BUS, but there is no communication between BUS and unit. In case that RUN diode is OFF, so there is no supply voltage on the terminals BUS+ and BUS-.

Connection



1. Temperature sensor TC/TZ
2. Supply voltage motors
3. 2x input for potentialless contact (button, motion sensor, etc.)

Technical parameters

JA3-02B_DC

Inputs	
Inputs:	2x AIN/DIN
Resolution:	10 bit
Ext. temperature sensor:	the connection between AIN1/DIN1 and AIN2/DIN2
Type ext. sensor:	TC/TZ
Temperature measurement range:	-20 °C .. +120 °C
Temperature measurement accuracy:	0.5 °C from range
Outputs	
Insulative voltage between outputs and internal circuits:	3.75 kV, SELV by EN 60950
Rated current:	0.85 A *
Peak current:	1.5 A / < 3s
Switched voltage:	12 - 24 V DC
Output indication UP, (▲⁀):	red (orange) LED
Output indication DOWN, (⁀▲):	green LED
Communication	
Installation BUS:	BUS
Power supply	
Supply voltage / tolerance:	27 V DC, -20 / +10 %
Rated current:	60 mA (at 27 V DC), from BUS
Status indication unit:	green LED RUN
Connection	
Data terminals:	terminal 0.5 - 1 mm^2
Power outputs:	4x conductor CY - profile 0.75 mm^2
Operating conditions	
Operating temperature:	-20 .. +50 °C
Storage temperature:	-30 .. +70 °C
Protection degree:	IP30
Control device purpose:	operative control device
Control device construction:	individual control device
Characteristics of automatic operation:	1.B.E
Heat and fire resistance category:	FR-0
Anti-shock category (immunity):	class 2
Rated impulse voltage:	2.5 kV
Overvoltage category:	II.
Pollution degree:	2
Operation position:	any
Installation:	into an installation box
Dimensions and weight	
Dimensions:	49 x 49 x 13 mm
Weight:	32 g

* Maximal operation time of outputs with rated current 0.85 A is 10 minutes, after that the output heating protection activates. The lower the current, the longer duration of protection.

Warning

Before the device is installed and operated, read this instruction manual carefully and with full understanding and Installation Guide System iNELS3. The instruction manual is designated for mounting the device and for the user of such device. It has to be attached to electro-installation documentation. The instruction manual can be also found on a web site www.inels.com. Attention, danger of injury by electrical current! Mounting and connection can be done only by a professional with an adequate electrical qualification, and all has to be done while observing valid regulations. Do not touch parts of the device that are energized. Danger of life-threat! While mounting, servicing, executing any changes, and repairing it is essential to observe safety regulations, norms, directives and special regulations for working with electrical equipment. Before you start working with the device, it is essential to have all wires, connected parts, and terminals de-energized. This instruction manual contains only general directions which need to be applied in a particular installation. In the course of inspections and maintenance, always check (while de-energized) if terminals are tightened.