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0073-1-6050
24699

ABB i-bus® EIB
1 x 2-way blind actuator
2-way switch actuator
6172 AG-101-500
GJ B000 6151 A0153

for installation on walls

Operating instructions

Only for qualified electricians with EIB training

CE

2

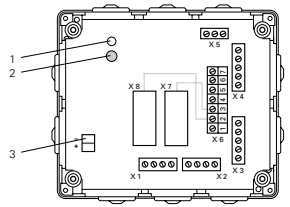
Scope of delivery

The scope of delivery ex works includes the following components:
- operating instructions
- housing with shutter/series actuator
- screw/plug-in terminals
  - 2 terminals 5-gang (green)
  - 2 terminals 4-gang (green)
  - 1 terminal 3-gang (green)
- 2 cable entries (closed)
- 1 cable entry (open)

3

Fig. 1

Device view



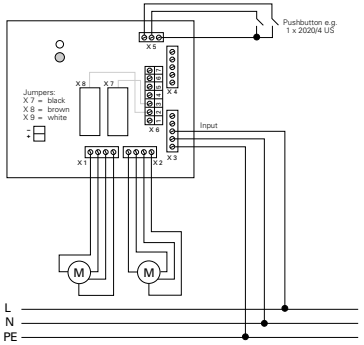
1 = Programming LED
2 = Programming button
3 = Bus terminal
X 1 = terminal output 1
X 2 = terminal output 2
X 3 = input terminal
X 4 = system overcoupling
X 5 = terminal for pushbutton
X 6 = terminal for phase
X 7 = phase selection for output 2 (X2)
X 8 = phase selection for output 2 (X1)

CAUTION
The screw/plug-in terminals X 1 - X 5 must be neither inserted nor withdraw while power is on. Unused plug-in terminals must be clipped on (shock protection).

4

Fig. 2

Example of wiring as a 1-gang - 2-way blind actuator

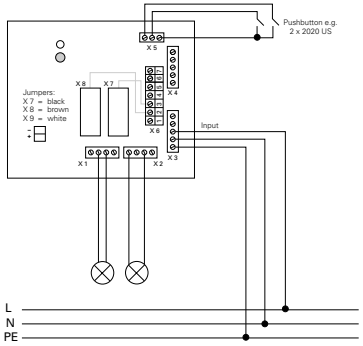


CAUTION
X7 and X8 must be connected to the same phase!

5

Fig. 3

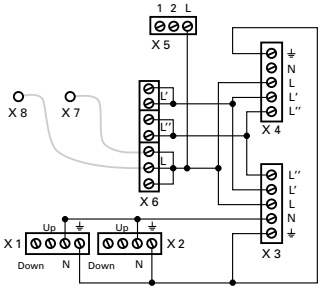
Example of wiring as a 2-way switch actuator



6

Fig. 4

Internal links



Important Information

ATTENTION
Work on the 230 V power system may only be performed by qualified electricians.
DIN-VDE standards and rules, as well as those contained in the EIB manual of the ZVEI/ZVEH, must be adhered to.

The applicable safety requirements (e. g., accident prevention regulations, "law governing technical equipment") must also be adhered to when working on connected operating media and installations. For the planning and erection of electrical installations, the relevant standards, guidelines, regulations and provisions of that country have to be observed in which the installation is to be erected and operated.

Please check in any case if these standards and regulations permit polyphase operation. If polyphase operation is permitted, such a wiring system requires an all-pole disconnection of all load and control lines *since there is a danger to life*.

Detailed descriptions of application programs and documents to assist planning are available for planning the installation of the ABB i-bus® in an ABB i-bus® EIB system. These documents can be obtained from ABB.

The ABB manufacturer's database is constantly updated and contains the latest applications. Please refer to the Technical Manual for the relevant descriptions. Should you not have the database and/or the Technical Manual , you can request these from us.

Device programming is effected with the ETS 2, version 1.1 and higher.

Important Information

When wiring the shutter/series actuator 6172 AG-101-500 (hereinafter referred to as actuator 6172 AG-101-500) with incandescent lamps, the instructions of the lamp/electronic control gear manufacturer regarding making current and power factor must be adhered to; if necessary, a making current limiter must be used.

ATTENTION
The pushbutton inputs (terminals 1 and 2) must be in phase.
The maximum length of the pushbutton line must not exceed 100 m. Use only pushbuttons without contact-parallel lighting.
In order to prevent ripple voltage, the connected line must be laid separately to the pushbutton line.

Fields of Application/Functioning

Function as a shutter actuator
The actuator 6172 AG-101-500 permits the simultaneous control of two shutter motors. Shuttters can also be raised and lowered and the lamellas adjusted via conventional shutter pushbuttons (e. g., 2020/4 US). Separate locking (emergency UP position in the case of high winds) is possible, e. g., via the ABB wind sensor.

Function as a series actuator
The actuator 6172 AG-101-500 can switch two consumer groups independent of each other (see also "Technical Data").

Additional functions can be parameterized via the ETS:
- adjustable staircase lighting function
- logic operations (AND/OR)

NOTES
Device selection (shutter or series actuator) is effected via the software.

Local operation is possible via conventional pushbuttons.

Technical Data

Power supply:
Nominal voltage: 230 V ~ ± 10 % , 50 Hz
Current consumption: ≤ 20 mA

Switching current:
Shutter acutator mode: max. 4 A, cos φ = 0.5
Series actuator mode: max. 2 x 10 A, cos φ = 0.5 (in polyphase operation)
max. 10 A, cos φ = 0.5 (in single-phase operation)

Pushbuttons:
Max. line length: 100 m per pushbutton input
No. of pushbuttons (unlit): unlimited
Pushbutton input: 230 V ~ ± 10 % , 50 Hz

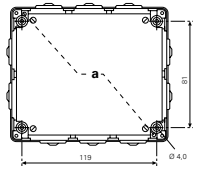
Connections (see Fig. 1):
- ABB i-bus® EIB: via 2-pole bus terminal 6182
- Pushbutton input: 3-pole screw/plug-in terminal
- System input: 5-pole screw/plug-in terminal
- System overcoupling: 5-pole screw/plug-in terminal
- Switching outputs: 2 x 4-pole screw/plug-in terminal
phase selection by means of a 7-pole plug-in terminal
- Terminal load: max. 10 A for all **N** and **L** terminals

General:
Operating temperature: - 5 to + 45 °C
Storage and transport: - 20 to + 70 °C
Type of protection: IP 54 acc. to EN 60529
Dimensions (h x w x d): 105 x 150 x 50 mm
Weight: 0.4 kg

Instructions ref. to installation/Fig. 5

Please observe the following points prior to and during installation:
- **Make sure that neither persons nor things are standing in the travelling range of the shutters, etc.**
- The switching of three-phase loads (e. g., motors) is forbidden.
- In dry locations, the device can be installed on walls as well as on ceilings. In damp locations, only a vertical installation on walls is permitted (water drain on the bottom).
- If the device is to be installed on an intermediate ceiling or in a cabinet, sufficient cooling has to be ensured.

Fig. 5: Location and distance of the bores/drain openings



Installation

You should in any case read the "Important Information" chapter at the beginning of these operating instructions.

ATTENTION
De-energize all connecting lines to be installed! Take safety precautions against an unintentional energizing!

Make sure which application has been provided for the actuator 6172 AG-101-500. This allows you to draw conclusions with respect to:
- the wiring of actuator outputs and pushbutton inputs
- parameterization
- the procedure upon commissioning.

ATTENTION
Severe damage may occur, if the wiring of the outputs is not conforming with the use and the parameterization of the device.

Commissioning must not be effected, unless
- all connections have been laid, made and checked
- all screw/plug-in terminals, even the unwired ones, have been slipped on.

Installation
- Remove the housing cover of the device.
Inside the housing, you will find the connections of the actuator 6172 AG-101-500 and another cover. This inner cover remains in its position; during installation, there is no need to remove this cover (except for "phase selection").
- Mark the bore holes for fixing the housing (see Fig. 5).
The diameter of bores in the housing is 4.0 mm.
- For wall installation, pierce the drain opening positioned below on the rear side of the housing (see Fig. 5, pos. a).
- Mount the actuator 6172 AG-101-500 at the place provided.

13

Installation

Connection
- Unless you have done this already before, lay the connecting lines now
- for the connected electrical consumers or shutter motors
- for the pushbutton inputs
  When using actuator outputs for a shutter control, the pushbuttons for the (optional) local operation must be designed as shutter pushbuttons.

ATTENTION
Observe the national standards and regulations governing polyphase operation:
- if the voltage for contact interrogation is provided externally by another phase
- if the voltage supply of the actuator outputs is effected via several different phases.

- Before connecting the connecting line(s) to a screw/plug-in terminal, remove the damp-proof cable gland from the housing and slide it over the ends of the connecting line(s).
- Strip off approx. 7 mm of the insulation from the connecting line(s) and fix the bare cable ends in the provided contacts of the screw/plug-in terminal by screwing.

ATTENTION
Thereby, observe the location and orientation of the pin names at the push-on terminal strips!

- Position the damp-proof housing cover at an appropriate distance from the screw/plug-in terminal and push terminal and cable gland into the provided recesses at the same time. Ensure that no kinks are formed in the connecting lines.

ATTENTION
The screw/plug-in terminal must snap into place perceptibly in order to make a reliable connection. Ensure that the screw/plug-in terminals are in a straight position in the lower part!

14

Installation

- After all connections have been made and checked, place the unused screw/plug-in terminals on the associated free locations (shock protection!).
- Close all unused housing openings by means of the supplied closed cable gands.
- Do not fix the housing cover unless a physical address has been assigned during commissioning.
  Up to this time the power supply must not be switched on!

15

Installation: phase selection

ATTENTION
Ensure that all connecting lines to be mounted are still de-energized! Take safety precautions against an unintentional energizing!

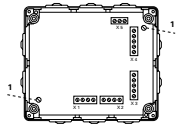
By means of the 7-pole plug-in terminal and the three connecting wires (coloured, flexible), the Powernet EIB path and the two outputs can be randomly assigned to the input phases (in case of polyphase wiring). The connecting wires are pre-configured ex works to L (≙ L1) by means of the plug-in terminal.
Depending on the load conditions, it is possible to reconnect the relays to L' (≙ L2) or L'' (≙ L3), respectively.

ATTENTION
When the device is used as a shutter actuator, the two lines X7 (black) and X8 (brown) must only be connected to the same phase.

Reconnection of the connecting wires

ATTENTION
Switch off the power supply before loosening the inner cover. The cover may only be removed by authorized electricians in acc. with VDE 0100 and TAB!

- Loosen the two screws (diagonally opposite - see pos. 1) of the inner cover and withdraw all screw/plug-in terminals.
- Lift off the cover carefully.
- Reconnect the connecting wires as described above.
- Then immediately replace and fasten the cover.



16

Installation: phase selection

ATTENTION
The preferred state of the output relay (in the case of failure or restoration of the voltage supply of the actuator 6172 AG-101-500) is set ex Works to OFF. This preferred state can be changed via the ETS.

In this case, ensure that the system is not in an undesired or dangerous operating state when the voltage supply is connected/switched off.

17

Commissioning

- Fasten the cover prior to commissioning.

Operation of the device is software-dependent. In order to effect programming, connect a PC with the ETS 2, version 1.1 or higher, to the ABB i-bus® EIB bus line via an EIB-RS 232 interface.

Allocation of the Physical Address
- Switch on the supply voltage.
- Load the physical address and the application in actuator 6172 AG-101-500 via the ETS.
- For this purpose, press the programming key on the device.
  - The red programming LED illuminates.
- The red LED extinguishes after the physical address has been programmed.
- Note the number of the physical address on the device, if appropriate, using a non-smudge pen.

Selection/Parameterization of the Application
Please refer to the current Technical Manual for a description of the available application versions and appurtenant parameters.