

A1 (v2023) - connection diagram

CONNECTOR 1 (2-pole):

pin 1 (red, 1.5 mm²) = min. +24Vdc - max. +50Vdc / 60W

pin 2 (blue, 1.5 mm²) = GND

CONNECTOR 2 (5-pole):

pin 3 (black, 0.22 mm²) = **UNLOCK** - opening impulse - NO contact connects pin 2 (GND) and pin 3 to unlock

pin 4 (brown, 0.22 mm²)= **BOLT SIGNAL** - transistor switch to GND when bolt is locked

5Vdc to 36Vdc - max. load 100mA

pin 5 (yellow, 0.22 mm²)= **DOOR SIGNAL** - transistor switch to GND when door is closed

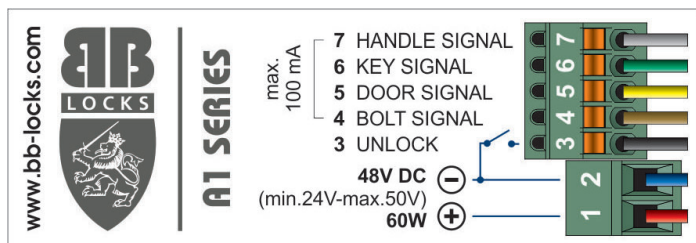
5Vdc to 36Vdc - max. load 100mA

pin 6 (green, 0.22 mm²) = **KEY SIGNAL** - transistor switch to GND when key is used

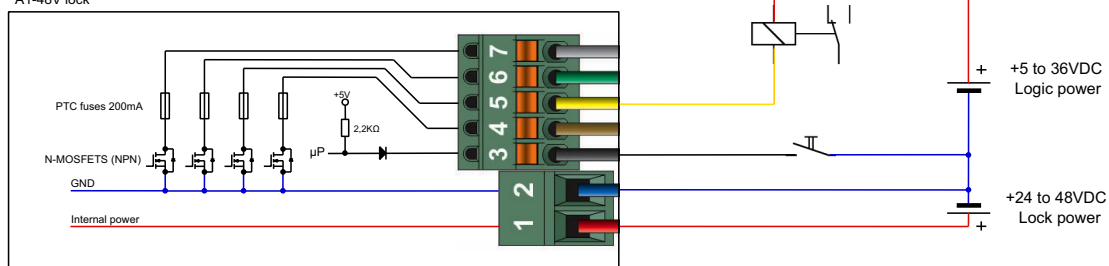
5Vdc to 36Vdc - max. load 100mA

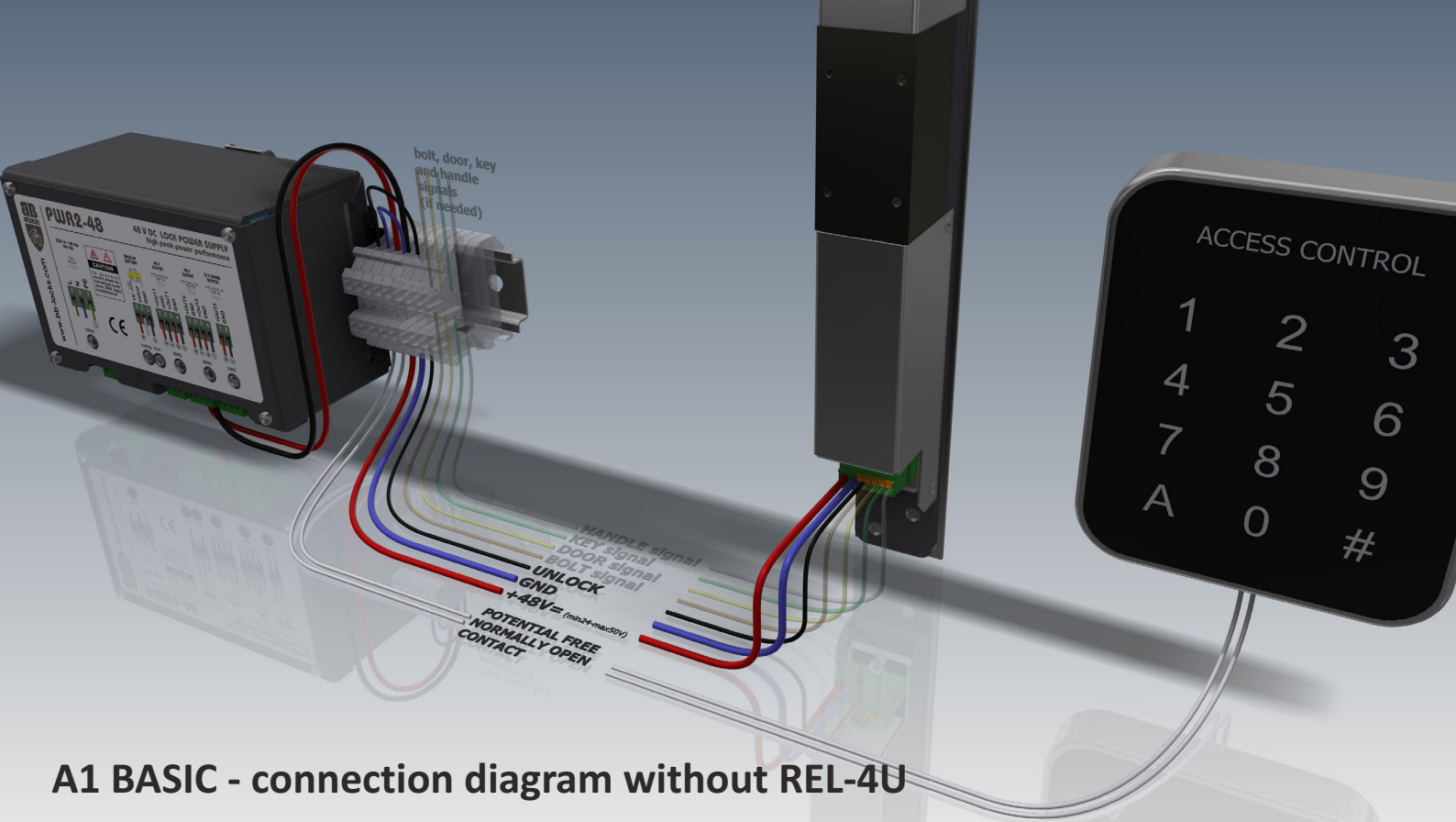
pin 7 (grey, 0.22 mm²) = **HANDLE SIGNAL** - transistor switch to GND when handle is used

5Vdc to 36Vdc - max. load 100mA



A1-48V lock





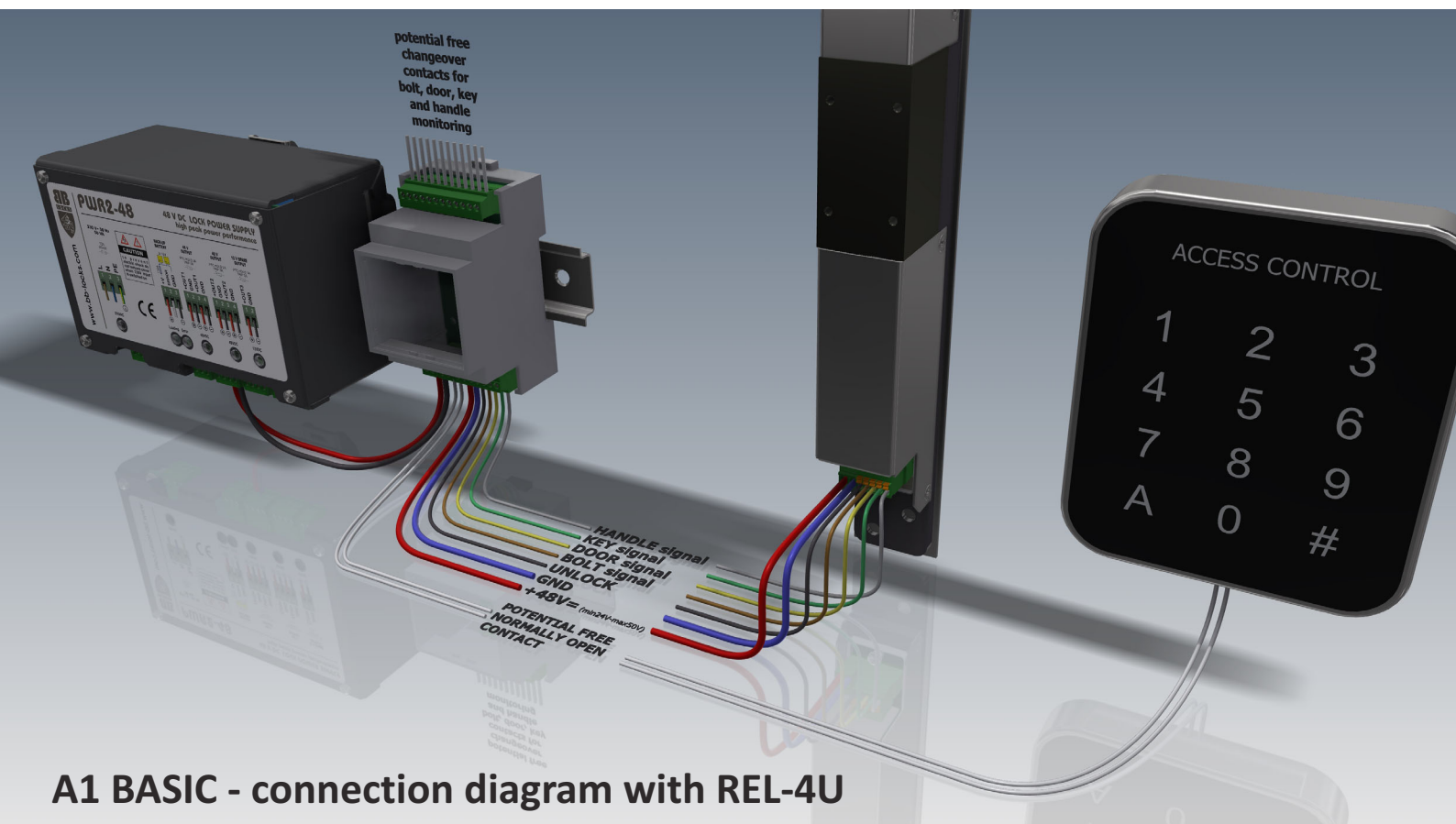
A1 BASIC - connection diagram without REL-4U

The unlock impulse is a NO contact, which makes a connection between pin 2 and 3 on the lock.

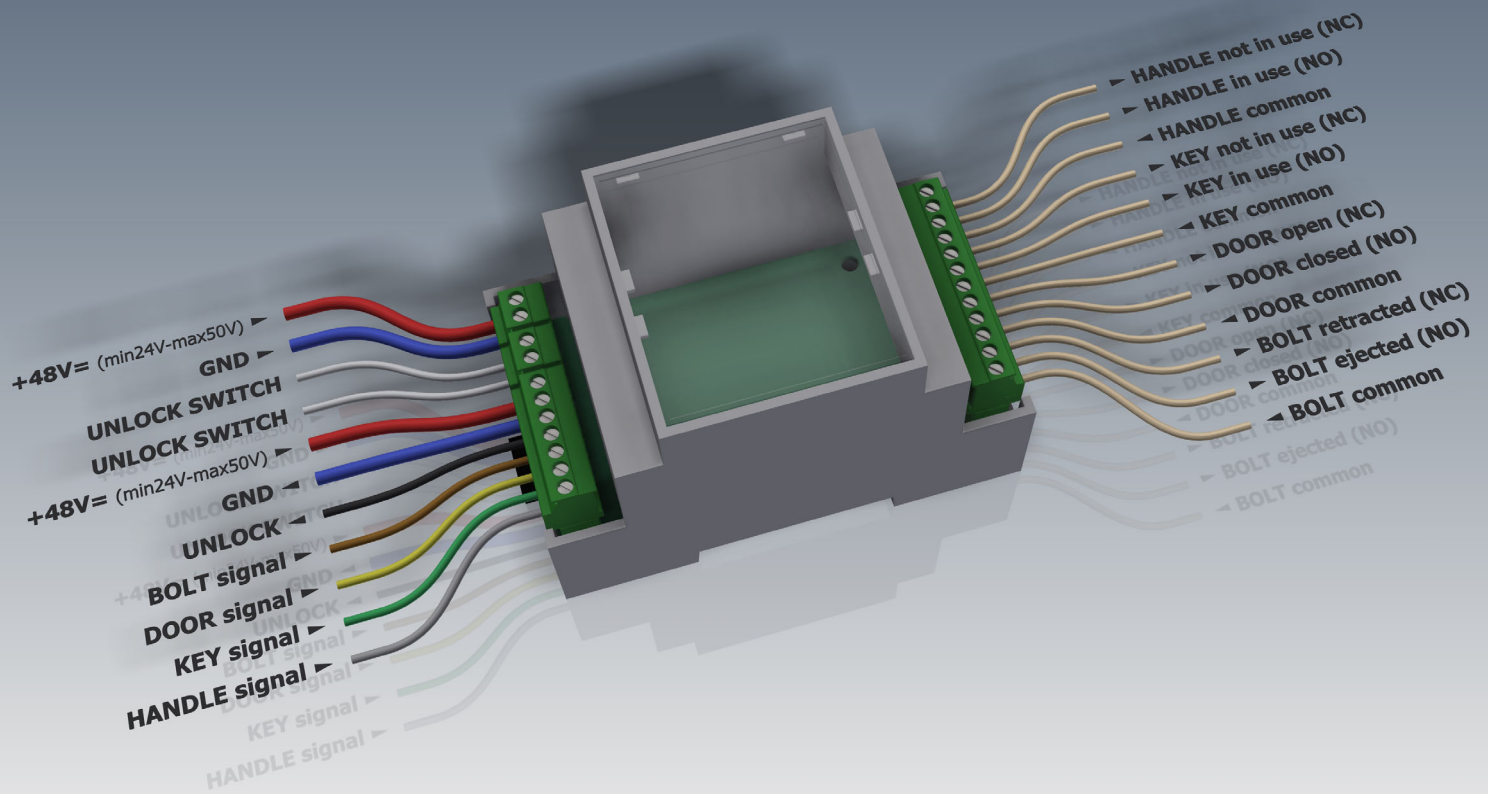
For the proper functioning of the lock it is important that the correct power and current arrives at the lock. Correct cable and power supply specifications must therefore be respected:

- cable: 2 x 1,5mm² (power cable) + 5 x 0,22mm² (signalisation wire); shielded (can be ordered separately with reference: **BB25LSZH**).
- power supply: 24V DC; 60W (per lock) stabilised power supply (can be ordered separately with reference: **PWR2-24**). The total distance between the lock and the power supply is limited to maximum 25m (this to avoid too large a drop in power supply on the cable).
- power supply: 48V DC; 60W (per lock) stabilised power supply (can be ordered separately with reference: **PWR2-48**). The total distance between the lock and the power supply is limited to maximum 300m (this to avoid too large a drop in power supply on the cable).

The **REL-4U** interface is available to turn the signals coming from the lock into potential free contacts. It also facilitates the connection of the access control (see picture below). ATTENTION: The first version of the REL-4 interface is not compatible with A1 locks powered by a 48Vdc power supply.



A1 BASIC - connection diagram with REL-4U



REL-4U interface: DIN Rail box with user friendly Phoenix plug-in screwconnectors.

- **Inputs:**

CONNECTOR 1 (2-pole) - connection to the power supply:

pin 1 = min. +24Vdc - max. +50Vdc / 60W (red, 1.5 mm²)

pin 2 = GND (blue, 1.5 mm²)

CONNECTOR 2 (2-pole) - unlocking impulse:

pin 1 } UNLOCK - NO contact bridges pin 2 (GND) and pin 3 to unlock
pin 2 }

CONNECTOR 3 (7-pole) - connection to the lock:

pin 1 = min. +24Vdc - max. +50Vdc / 60W (red, 1.5 mm²)

pin 2 = GND (blue, 1.5 mm²)

pin 3 = UNLOCK - unlocking impulse (black, 0.22 mm²)

pin 4 = BOLT SIGNAL (brown, 0.22 mm²)

pin 5 = DOOR SIGNAL (yellow, 0.22 mm²)

pin 6 = KEY SIGNAL (green, 0.22 mm²)

pin 7 = HANDLE SIGNAL (grey, 0.22 mm²)

- **Outputs:**

CONNECTOR 1 (12-pole) - potential free outputs (5V to 60Vdc - max. load 1A):

pin 1 = BOLT common

pin 2 = BOLT locked (NO)

pin 3 = BOLT unlocked (NC)

pin 4 = DOOR common

pin 5 = DOOR closed (NO)

pin 6 = DOOR open (NC)

pin 7 = KEY common

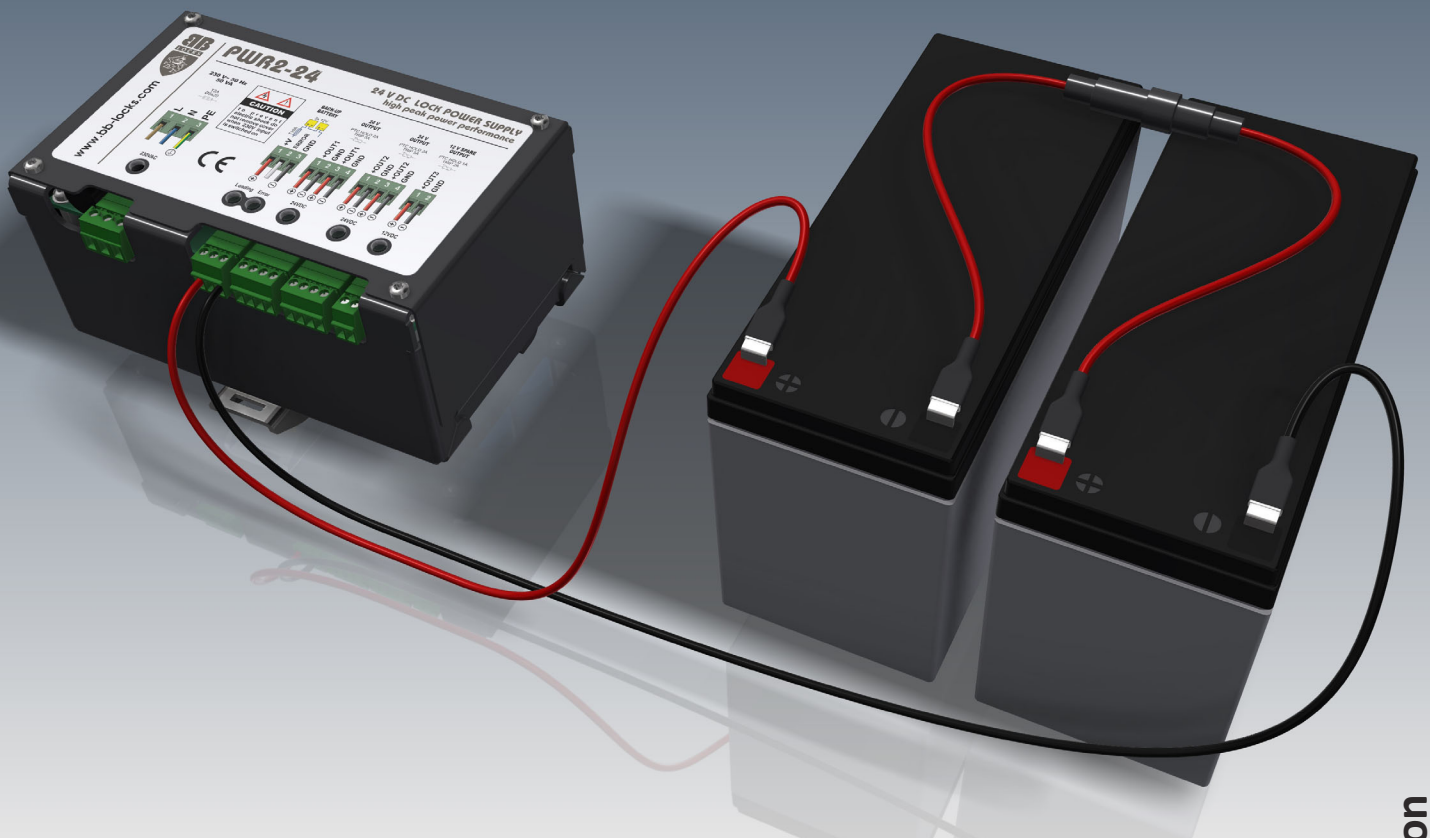
pin 8 = KEY in use (NO)

pin 9 = KEY not in use (NC)

pin 10 = HANDLE common

pin 11 = HANDLE in use (NO)

pin 12 = HANDLE not in use (NC)



Back-up battery connection

Both the PWR2-24 and the PWR2-48 have a built-in battery charger for applications where autonomy is desired. This requires the installation of 2 optional 12V 7Ah batteries. An internal voltage stabilizer regulates upwards in order to supply the 24Vdc and 48Vdc output respectively.

The cabling to the batteries requires special attention because of the high short-circuit currents that occur when the connection wires are damaged. Although there is an internal fuse, it is good practice to put an extra fuse in the wiring close to the battery pack terminal (see pictures above and below).

