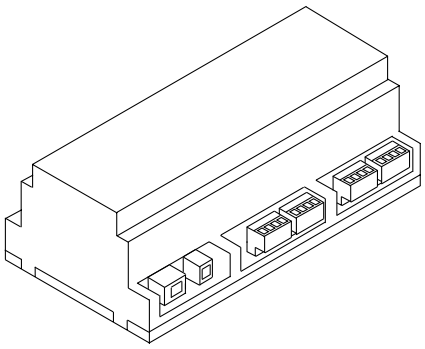
Atlas Plus DIN

INSTALLATION MANUAL (UK)

ISEO Zero1 ELECTRONIC SOLUTIONS



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ELECTRONIC SUPPORT SERVICE

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GENERAL WARNINGS

https://www.iseo.com/it/it/download

- Read this manual prior to use the device in order to ensure a safe and proper use.
- Preserve this manual as future reference.
- The installation and maintanance of the device must be carried out by qualified technical staff, adequately trained by ISEO.
- The instructions should be carefully followed during installation. These instructions and any maintenance instructions should be passed on by the installer to the user.
- No modifications of any kind are permitted, except for those described in these instructions.
- The product must be destined only for the use for which it is expressly designed and therefore as web server controller for civil and industrial locations. Any other use is considered improper and dangerous.
- The electrical connection must be made according to the constructor's instructions and respecting the regulations in force.
- For all repairs, exclusively contact a technical assistance center authorized by the constructor.
- Disconnect the power supply before carrying out any technical service that involves opening or accessing the internal parts of the product.
- Dispose of the product separately from household waste, in accordance with local laws and regulations.

1. PACKAGE CONTENTS

- 1 Atlas Plus DIN Server for RFID and F9000 ON-LINE and OFF-LINE devices, with connectors.
- 1 Installation manual (UK).

Power supply not included

2. TECHNICAL FEATURES

Communication interfaces*:
- 1 Ethernet interface TCP/IP 10/100 base T
- 1 LOCKBUS channel (CH0) to connect Stylos online readers and Actuators (max 8+8 Atlas DIN and max 4+4 Atlas DIN PoE)
- 2 RS485 channels (CH1/CH2) to connect F9000 online readers (max 2 Atlas DIN and Atlas DIN PoE)
- 1 USB connector
- 1 serial interface (debug)

Atlas DIN power supply:
- 12÷24 Vdc or PoE
- Maximum power consumption 10W (with no connected devices)

Atlas DIN PoE power supply :
- Requires PoE Switch IEEE 802.3af up to 15,4W
- Atlas DIN PoE absorbed power = 12W
- Delivery of data and power over CAT5e/CAT6 Ethernet cable

Backup batteries:
- 1500mAh (7,2Vdc) NiMH battery pack
- Estimated backup time: 30 minutes

CPU and memory:
- ARM 9 based CPU module
- 800MHz CPU clock
- 512MB Flash memory
- 64MB SDRAM
- 8GB Micro-SD

Signalling LEDs
- Power IN active (green)
- Switch OFF (red)
- Backup battery pack operating (orange)
- Ethernet activity (orange)
- Serial Tx/Rx CH0 (two orange)
- Serial Tx/Rx CH1 (two orange)
- Serial Tx/Rx CH2 (two orange)

Onboard Relays (max 30V - 5A):
- Relay 1 = normally open (NO)
- Relay 2 = normally open (NO)

Operative system:
- Linux

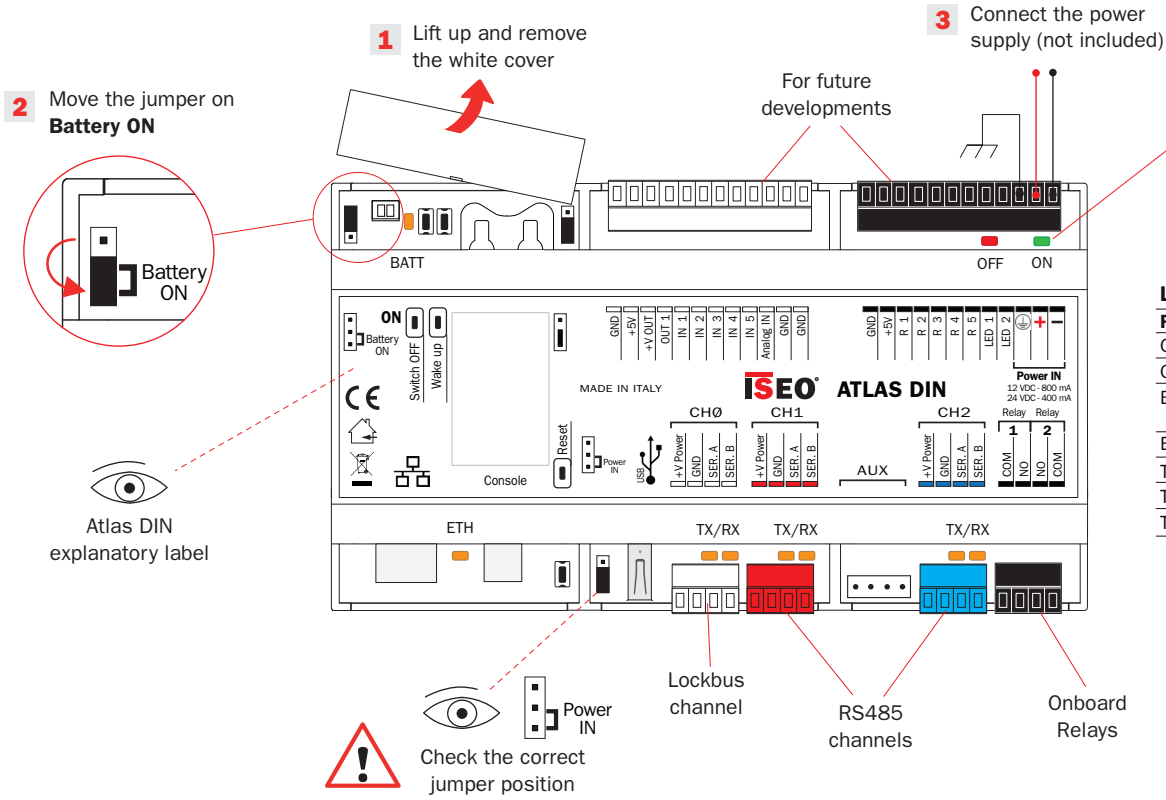
Push buttons:
- Reset (to manually reboot the Atlas)
- Wake-up (to manually start the Atlas when OFF)
- Switch off (to manually switch off the Atlas)

Housing:
- DIN35 rail installation housing (white color)
- L x W x H = 160 x 90 x 60 mm

Environmental characteristics:
- Operating temperature: -10°C ÷ +50°C
- Storage temperature: -20°C ÷ +70°C

* 12 poles Input/Output connectors for future development

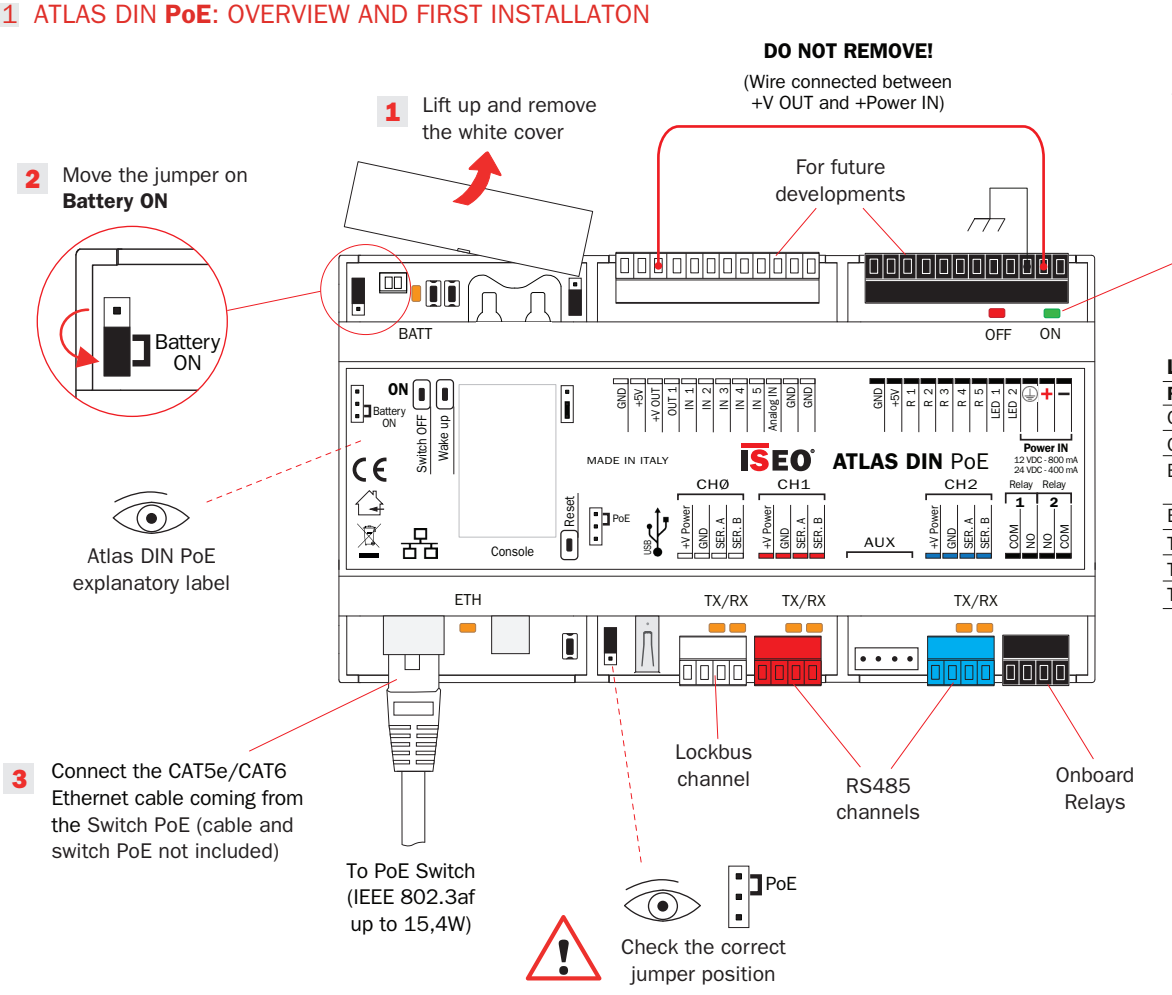
3. ATLAS DIN: OVERVIEW AND FIRST INSTALLATON



LED reference table

Ref.	Color	Description
ON	Green	Power IN active
OFF	Red	Switch OFF
BATT	Orange	Backup battery pack operating
ETH	Orange	Ethernet activity
TX/RX	Orange	Serial Tx/Rx CH0
TX/RX	Orange	Serial Tx/Rx CH1
TX/RX	Orange	Serial Tx/Rx CH1

3.1 ATLAS DIN **PoE**: OVERVIEW AND FIRST INSTALLATON



To use Atlas DIN PoE a PoE switch is required

LED reference table

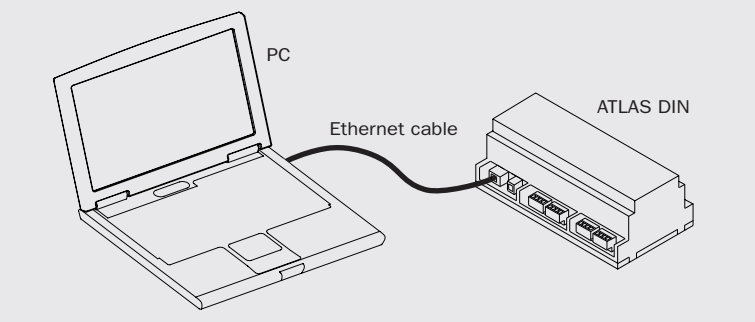
Ref.	Color	Description
ON	Green	Power IN active
OFF	Red	Switch OFF
BATT	Orange	Backup battery pack operating
ETH	Orange	Ethernet activity
TX/RX	Orange	Serial Tx/Rx CH0
TX/RX	Orange	Serial Tx/Rx CH1
TX/RX	Orange	Serial Tx/Rx CH1

The Atlas DIN is stocked in the warehouse and delivered from the factory with the battery jumper set in **Battery OFF** position. In this way the battery pack is disconnected from the electronic, slowing down the battery discharge and consequently improving battery life and performance. In this configuration the internal clock is not powered and the V364 system will always ask the clock synchronization at the first Atlas switch on and connection. It is recommended to set the jumper in Battery OFF position, every time the Atlas is not powered for a long time or in case of shipment back to ISEO for analysis or repair (see section 12).

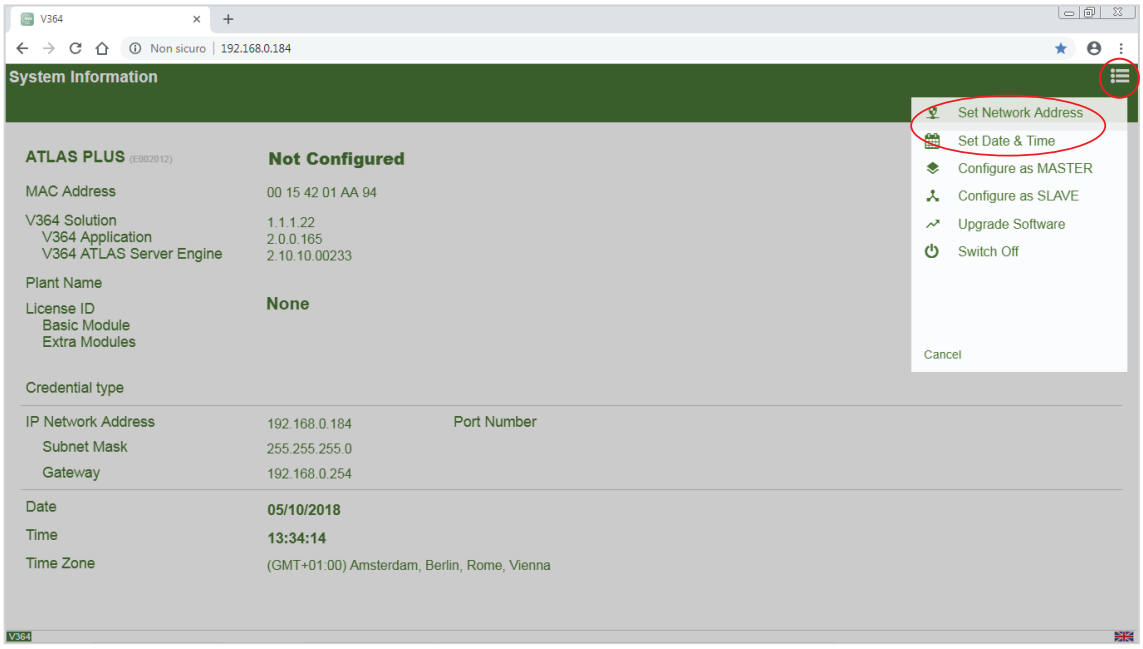
4. ATLAS DIN: TIME SETTING AND IP ADDRESS CONFIGURATION

Pay close attention during the Atlas IP address configuration: for security reasons this device does not allow you to restore the original IP setting (Factory Reset function). In case you forget the new IP address set in the Atlas, please contact an *Iseo Zero1* authorized technical center.

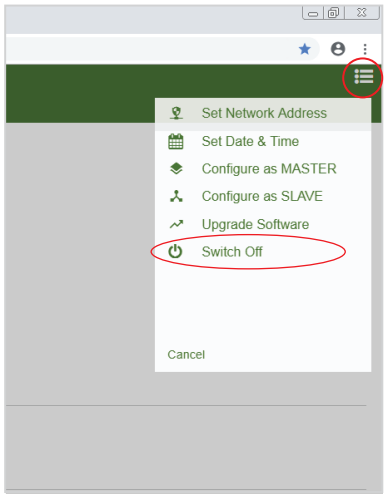
- Turn ON the Atlas connecting the power supply.
- Connect a network cable between PC and Atlas.

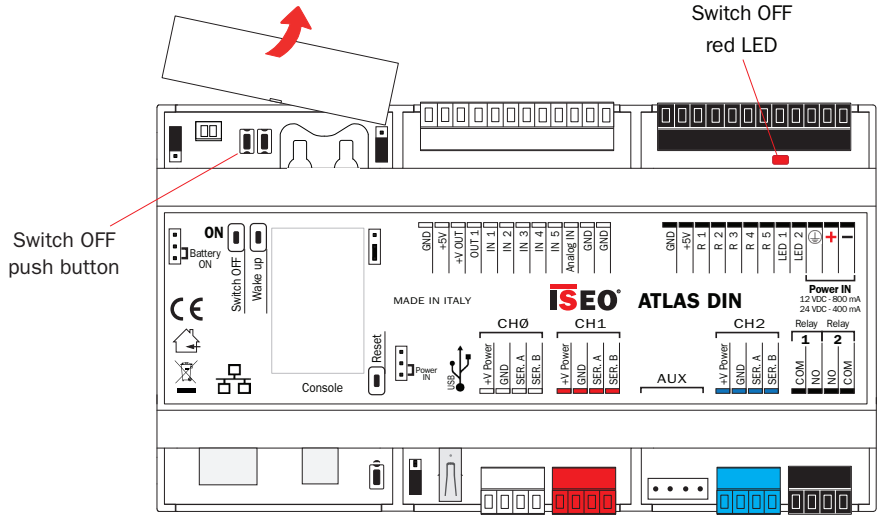


- Set the PC's network card on subnet **192.168.0.xx**
- Connect to **192.168.0.184** by *Google Chrome, Microsoft Edge* or *Safari* Internet browser.
- In the top right corner click on  and select **Set Date & Time**. Then click on **Synchronize V364 with your system**.
- In the same cascade menu select **Set Network Address**.



- Set the new Atlas **IP Network Address**, **Subnet Mask** and **Gateway**, then click **Save** and **YES** to confirm the new settings.
- Your Internet browser will automatically restart with the new Atlas IP address.
- To turn off the Atlas click  then press **Switch Off** and follow the instruction on the screen. Alternatively disconnect the Atlas main power supply, then hold down the **Switch OFF push button** for **10 seconds** until the Switch OFF red LED turns ON.

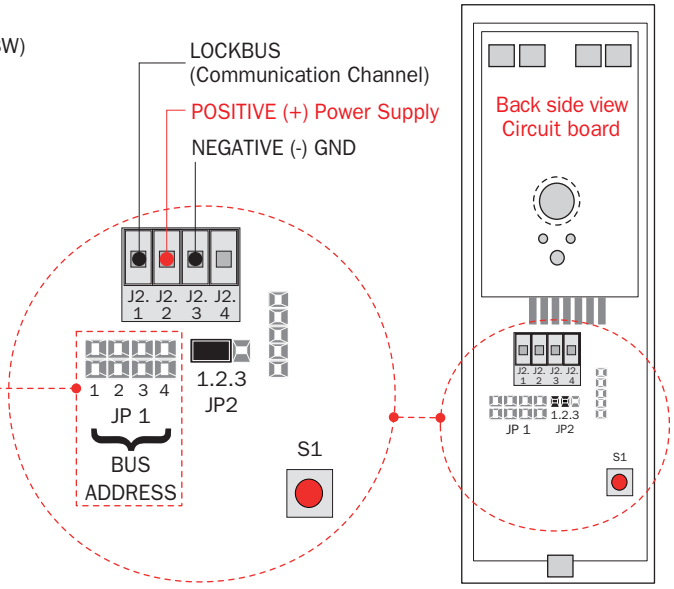




5. STYLOS: ADDRESS SETTING TABLE

- Power supply: 8÷30 VDC - 0.5A MAX (3W)
- Minimum/maximum cross-section of the cables is:0.20÷1.5 mm² (24÷15AWG).

BUS ADDRESS	JP 1 1	2	3	4
ADDRESS 1 =				
ADDRESS 2 =				
ADDRESS 3 =				
ADDRESS 4 =				
ADDRESS 5 =				
ADDRESS 6 =				
ADDRESS 7 =				
ADDRESS 8 =				



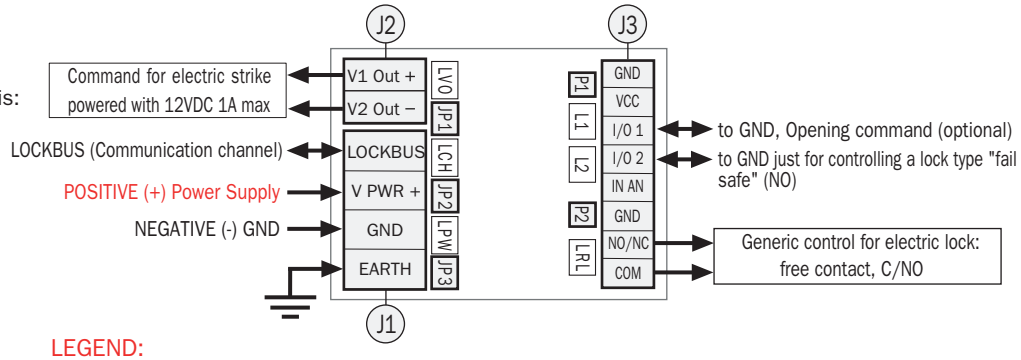
For each LOCKBUS channel it's possible to connect max 8 Stylos readers (4 if Atlas DIN PoE).

For more information about Stylos refer to the *Stylos Installation Guide,* available at: iseo.com.

5.1 ELECTRIC LOCK ACTUATOR: ADDRESS SETTING TABLE

- Power supply: 8÷30 VDC - 0.5A (3W)
- Min./max. cross-section of the cables is:
  24÷15AWG for terminals J2/J3
  24÷13AWG for terminal J1

BUS ADDRESS	JP 1	JP 2	JP 3
ADDRESS 1 =			
ADDRESS 2 =			
ADDRESS 3 =			
ADDRESS 4 =			
ADDRESS 5 =			
ADDRESS 6 =			
ADDRESS 7 =			
ADDRESS 8 =			



LEGEND:

J1= Power Supply/Lockbus
J2= Command for electric strike
J3= Inputs/Outputs
P1/P2= Programming buttons
JP1/2/3= Bus Address Jumpers
LPW= Power Supply On LED
LCH= LOCKBUS type I/II LED
L1/2, LVO= System LED
LRL= Relay LED

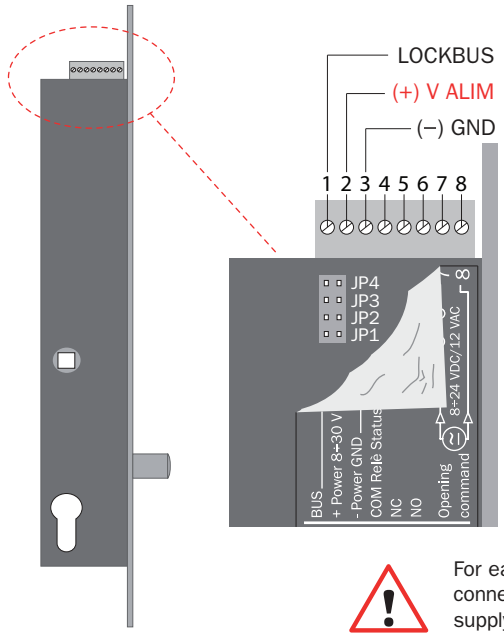
For each LOCKBUS channel it's possible to connect max 8 Actuators (4 if Atlas DIN PoE).

For more information about Actuator refer to the *Actuator Installation Guide,* available at: iseo.com.

5.2 THESIS 2.0: ADDRESS SETTING TABLE

- Power supply: 8÷30 VDC - 1A (15W)
- Peal off the label to access the Jumper Configuration (JP1/2/3/4). Once done reposition the label.

BUS ADDRESS	1	2	3	4	5	6	7	8
JP 4								
JP 3								
JP 2								
JP 1								



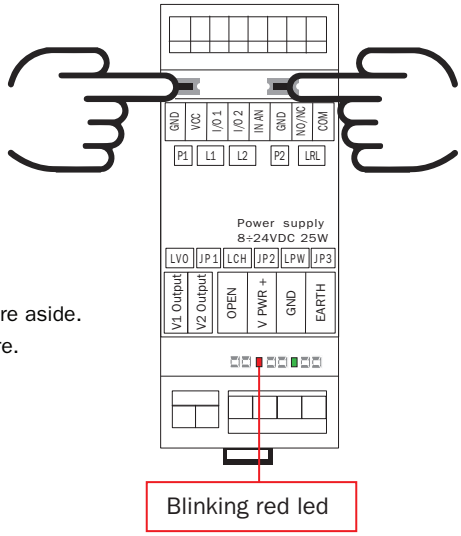
RELAY CONFIGURATION	
JP4 JP3 JP2 JP1	SECURED DOOR STATUS (bolt out and door closed) Standard factory confoguration
JP4 JP3 JP2 JP1	MOTORISED DOOR OPENER COMMAND (with bolt in, 1 second pulse). Power OFF the lock, insert jumper JP1 and power ON.

For each LOCKBUS channel it's possible to connect max 4 Thesis. An external power supply is required (see section 9.1 or 9.2). Thesis cannot be used with Atlas DIN PoE.

For more information about Thesis refer to the *Thesis 2.0 Instruction Manual,* available at: *iseo.com*

6. ELECTRIC LOCK ACTUATOR: LOCKBUS TYPE SETTING

The *Electric Lock Actuator* must be previously set in LOCKBUS 1 type to function properly with the Atlas.



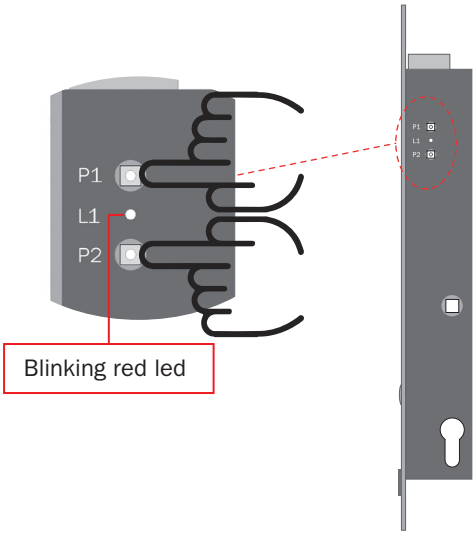
1 Switch on the Actuator and check if red LED blinks 1 time (**LOCKBUS 1 = Reader/Validator**). If at the power on the red LED blinks 2 times (LOCKBUS 2 = Stand-Alone Gate), proceed as described at point 2.

2 Switch on the Actuator keeping pressed both buttons simultaneously for 1 sec, as showed in the picture aside. Switch on the Actuator again, to check if now the red LED blinks 1 time, otherwise repeat the procedure.

All Actuators by deafult are shipped from the factory configured in LOCKBUS 2 (Stand-Alone gate).

6.1 THESIS 2.0: LOCKBUS TYPE SETTING

The Thesis 2.0 must be previously set in LOCKBUS 1 type to properly function with the Atlas.



1 Switch on the Thesis and check if red LED blinks 1 time (**LOCKBUS 1 = Reader/Validator**). If at the power on the red LED blinks 2 times (LOCKBUS 2 = Stand-Alone Gate), proceed as described at point 2.

2 Switch on the Thesis keeping pressed both buttons simultaneously for 1 sec, as showed in the picture aside.
Switch on the Thesis again, to check if now the red LED blinks 1 time, otherwise repeat the procedure.

Thesis 2.0 is shipped from the factory configured in LOCKBUS 1 or 2 depending on product code.

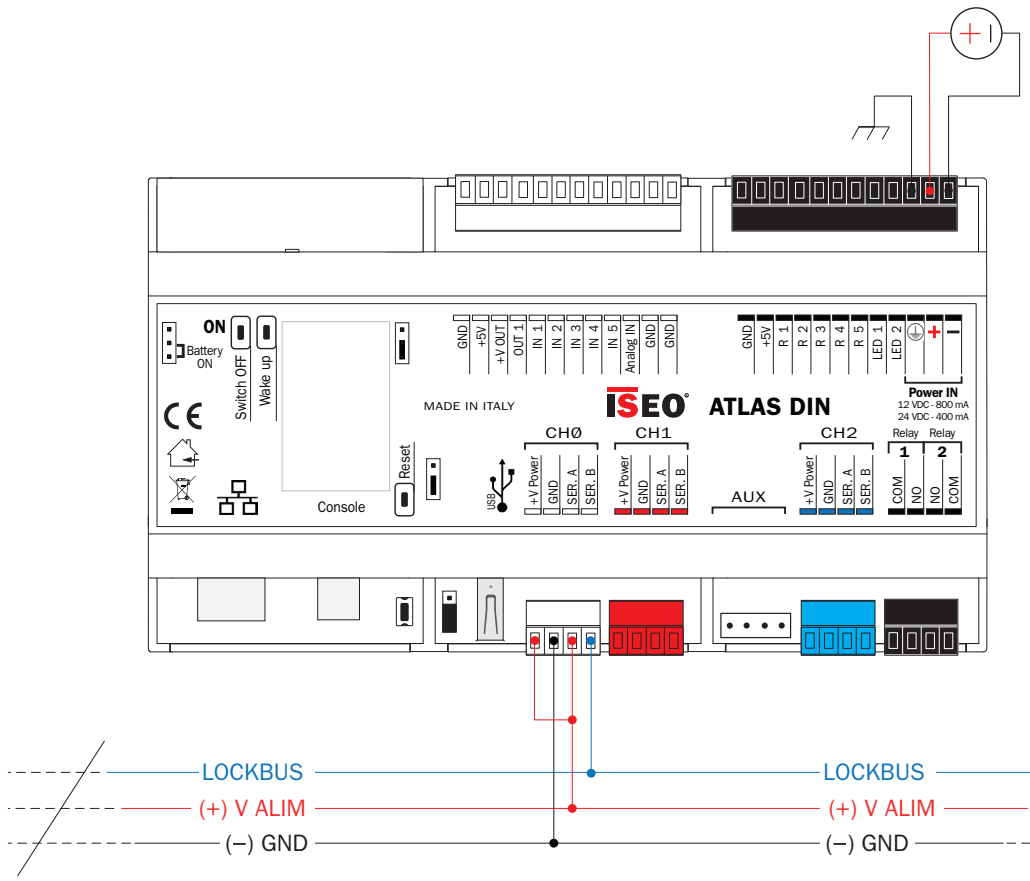
7. ATLAS WARNINGS

- The calculation of the cables section must be performed by qualified staff.
- Max cable length of LOCKBUS channel is 100 mt (sum of all branches).
- Recommended voltage for LOCKBUS channel is 24 VDC.
- In case of power failure the rechargeable batteries inside the Atlas ensure power for 30 minutes max.
- Ensure full recharge of the Atlas internal batteries by running a full recharge cycle min. every 6 months (see section 12).
- It is advisable to provide for an appropriate sectioning, a protection switch upstream of the transformer.
- The electrical connection must be made pursuant to the laws force by qualified personnel.
- Atlas earth connection is mandatory.
- Add Surge Protection Devices (SPD) to the mains, upstream the Atlas Master, when connected to Atlas Slaves, Actuators and Readers placed in outside areas of the builing (not equipotential zones), according to the Lightning Protection Risk Assessment of your building and current legislations.
- For any technical assistance or repairs, contact only *Iseo Serrature* or an *Iseo Zero1* authorised technical centre.
- *Iseo Zero1* reserves the right, without prior notice, to make all the necessary modifications to the product and to the instruction manual, for quality improvements or manufacturing or marketing necessities.

8. CONFORMITY CERTIFICATIONS

- In compliance with the EMC (electromagnetic compatibility) and RoHS (electrical and electronic equipment).
- References standards: EN301 489-1, EN301 489-17, EN330 440, EN60950-1, EN62209-2.
- See Declarations of Conformity for details available at website *iseo.com* (download area).

9. ATLAS DIN: CONNECTION EXAMPLE WITH ATLAS POWER SUPPLY (V364 RFID SYSTEM)



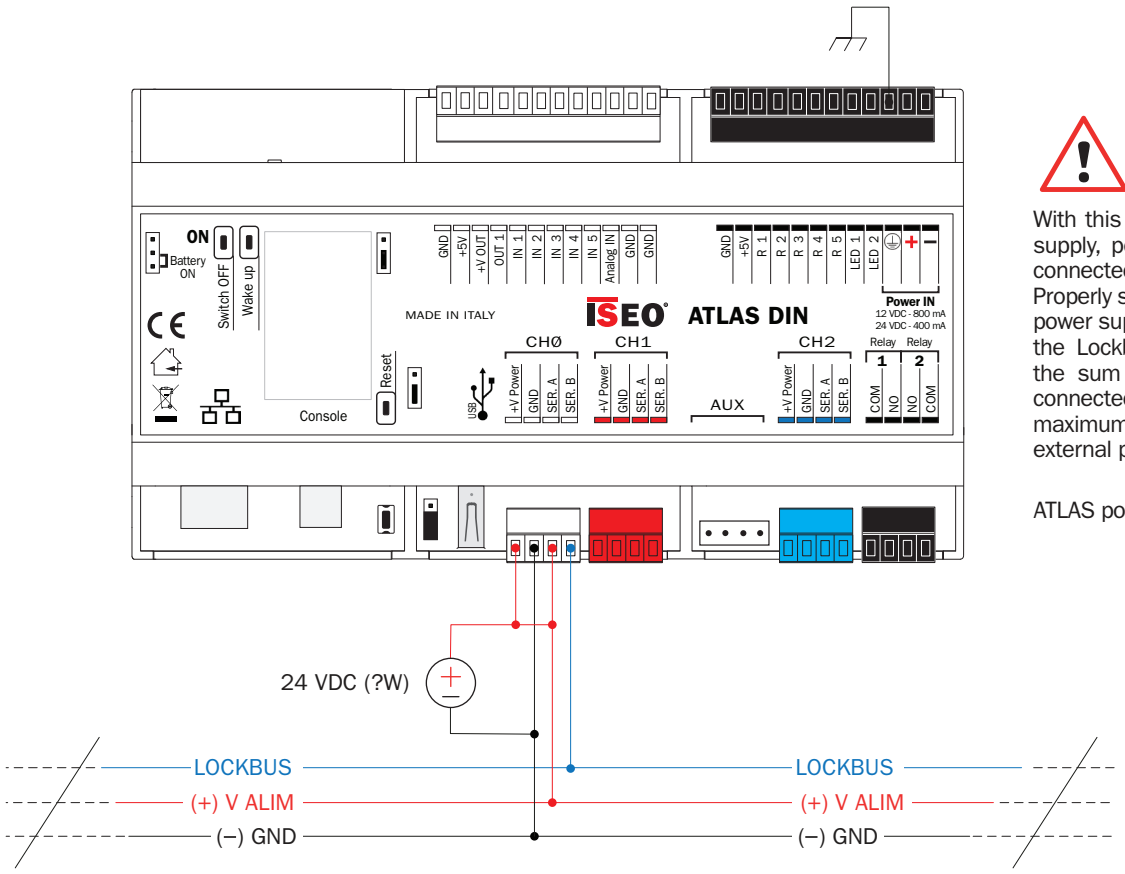
With this solution the Atlas power supply unit, powers the Atlas and all the connected device to the Lockbus line. Size the cable section of the Lockbus channel, by calculating the sum of the consumption of all connected devices. Do not exceed the maximum power provided from the Atlas power supply unit (35W).

ATLAS power consumption: 10W

In this example the lockbus channel maximum load is 25 W.

Total Lockbus channel cable length (sum of all branches): MAX 100mt.

9.1 ATLAS DIN: CONNECTION EXAMPLE WITH EXTERNAL POWER SUPPLY IN THE LOCKBUS LINE (V364 RFID SYSTEM)

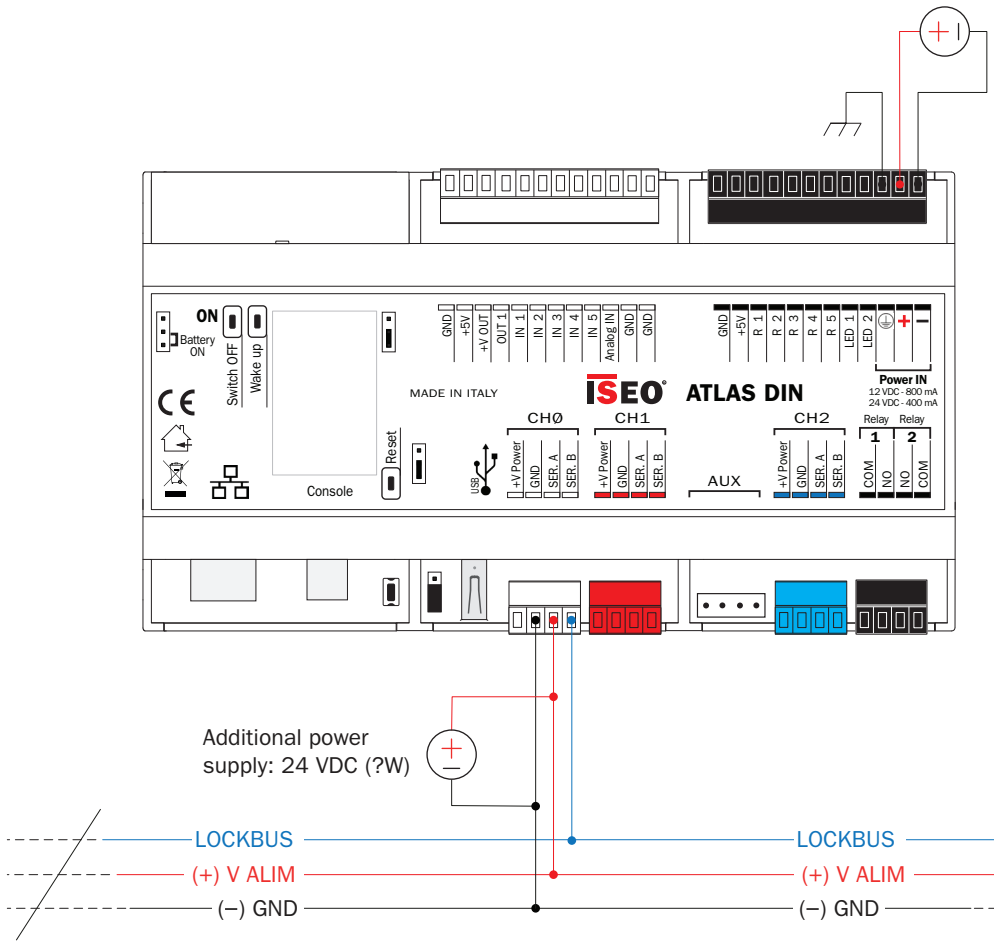


With this solution the external power supply, powers the Atlas and all the connected device to the Lockbus line. Properly size the power of the external power supply and the cable section of the Lockbus channel, by calculating the sum of the consumption of all connected devices. Do not exceed the maximum power provided from the external power supply unit.

ATLAS power consumption: 10W

Total Lockbus channel cable length (sum of all branches): MAX 100mt.

9.2 ATLAS DIN: CONNECTION EXAMPLE WITH ADDITIONAL POWER SUPPLIES IN THE LOCKBUS LINE (V364 RFID SYSTEM)



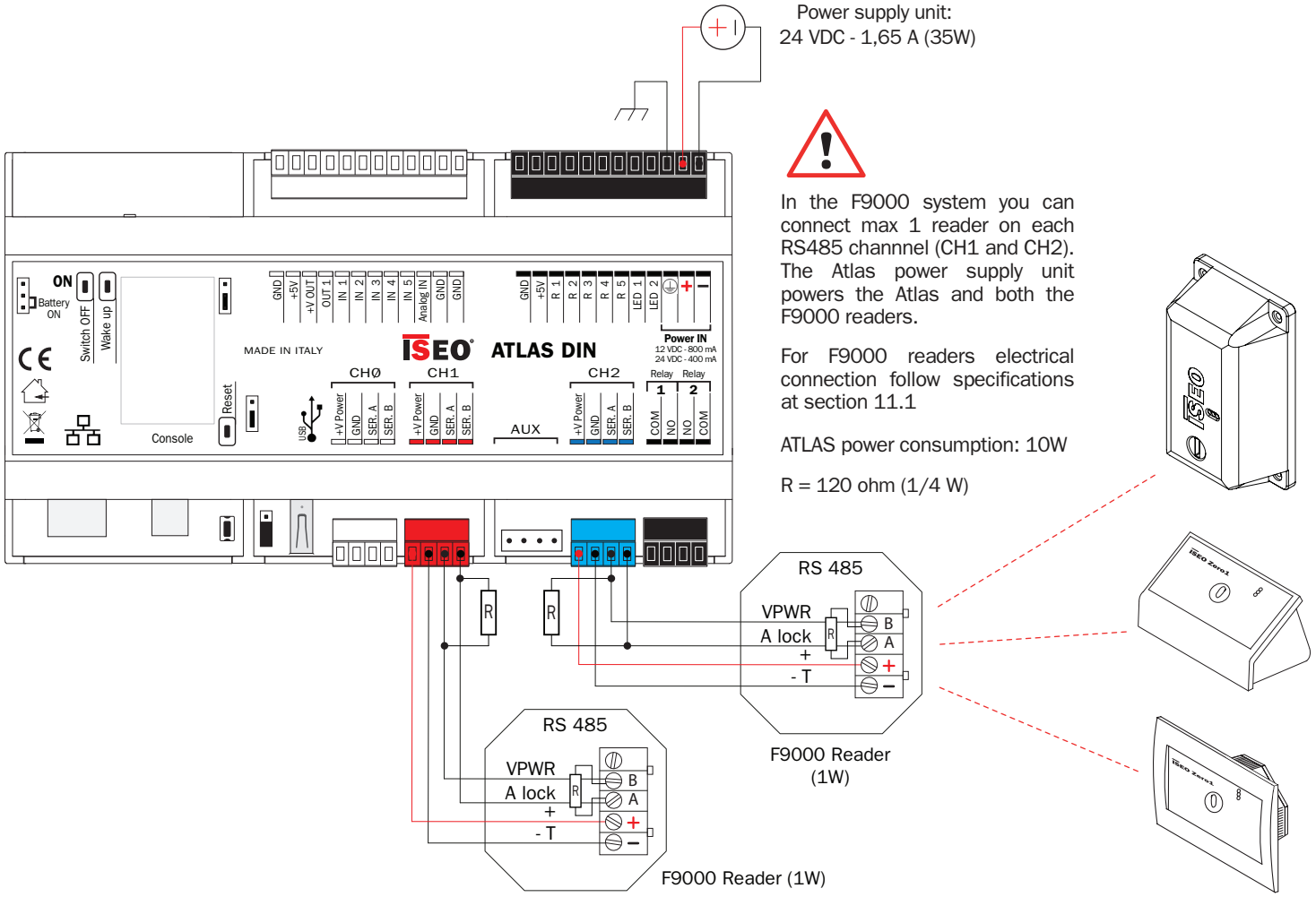
With this solution the Atlas power supply is separated from the additional power supply in the lockbus line. Properly size the power of the additional power supply and the cable section of the Lockbus channel, by calculating the sum of the consumption of all connected devices. Do not exceed the maximum power provided from the additional power supply unit.

Additional power supply must be 24VDC like the Atlas power supply.

ATLAS power consumption: 10W

Total Lockbus channel cable length (sum of all branches): MAX 100mt.

9.3 ATLAS DIN: 2 READERS CONNECTION EXAMPLE WITH ATLAS SUPPLY (V364 F9000 SYSTEM)



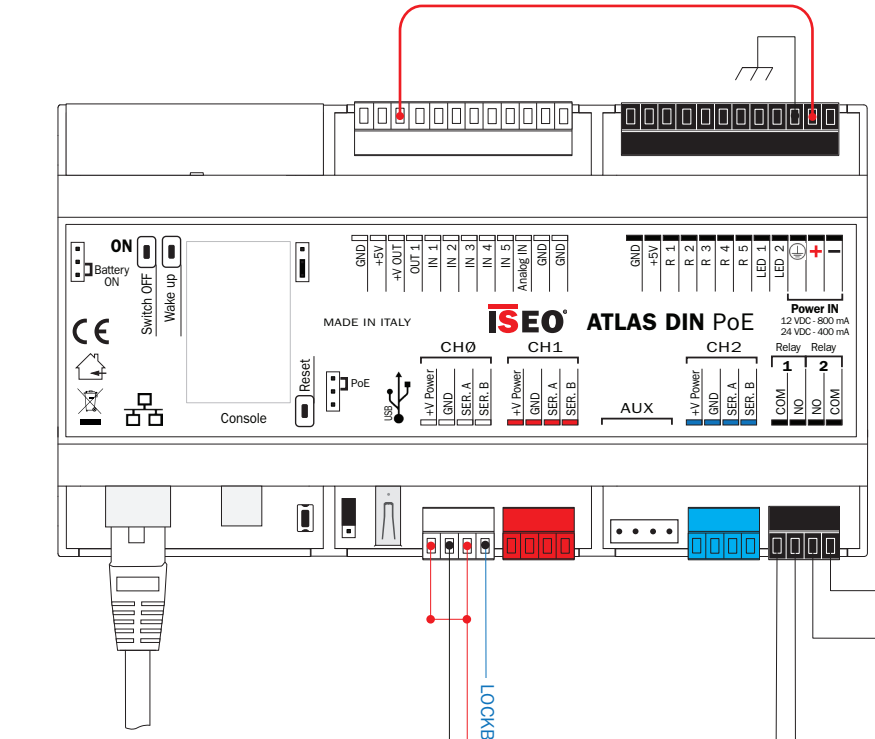
In the F9000 system you can connect max 1 reader on each RS485 channnel (CH1 and CH2). The Atlas power supply unit powers the Atlas and both the F9000 readers.

For F9000 readers electrical connection follow specifications at section 11.1

ATLAS power consumption: 10W

R = 120 ohm (1/4 W)

10. ATLAS DIN PoE: 2 DOORS CONTROLLER CONNECTION EXAMPLE WITH ELECTRIC LOCKS (V364 RFID SYSTEM)

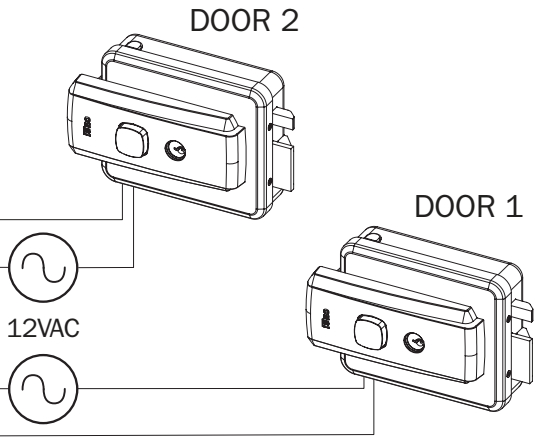


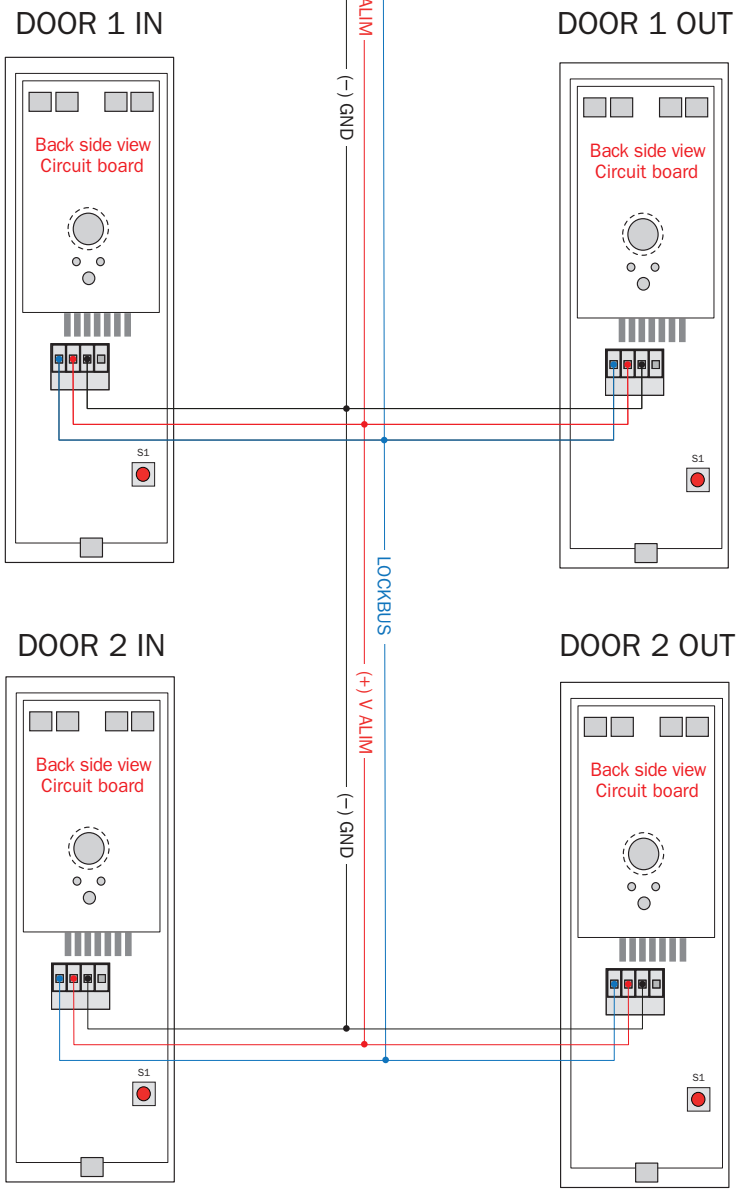
To PoE Switch
(IEEE 802.3af up to 15,4W)

MAX nr. of Stylos readers powered from the Atlas DIN PoE = 4

Delivery of data and power over one CAT5e/CAT6 Ethernet cable.

Total Lockbus channel cable length (sum of all branches): MAX 100mt.

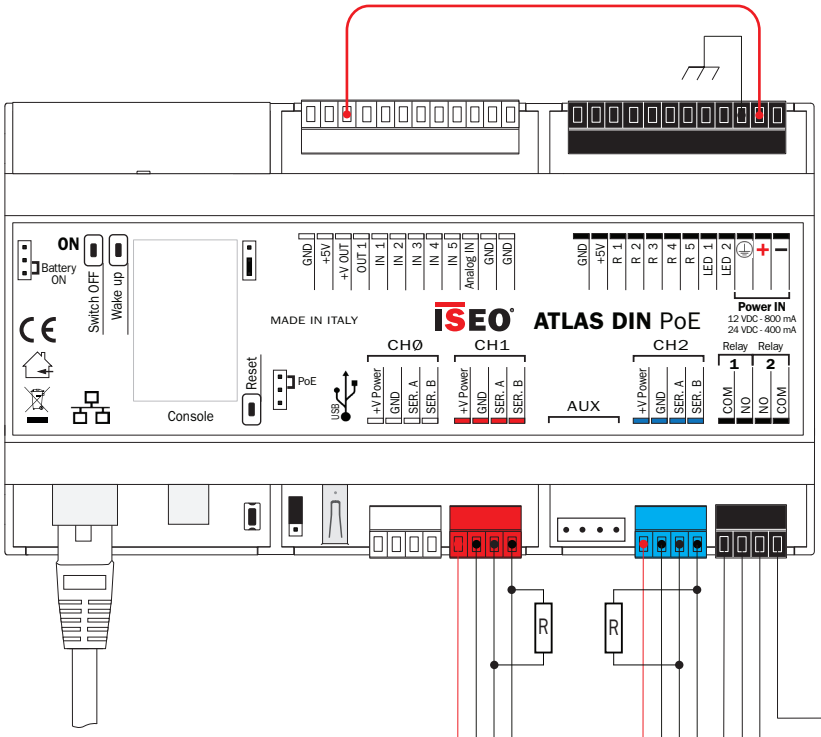




Size the cable section of the Lockbus channel, by calculating the sum of the consumption of all connected devices.

Stylos power consumption: 3W (tot. 12W)

10.1 ATLAS DIN PoE: 2 DOORS CONTROLLER CONNECTION EXAMPLE WITH ELECTRIC STRIKES (V364 F9000 SYSTEM)



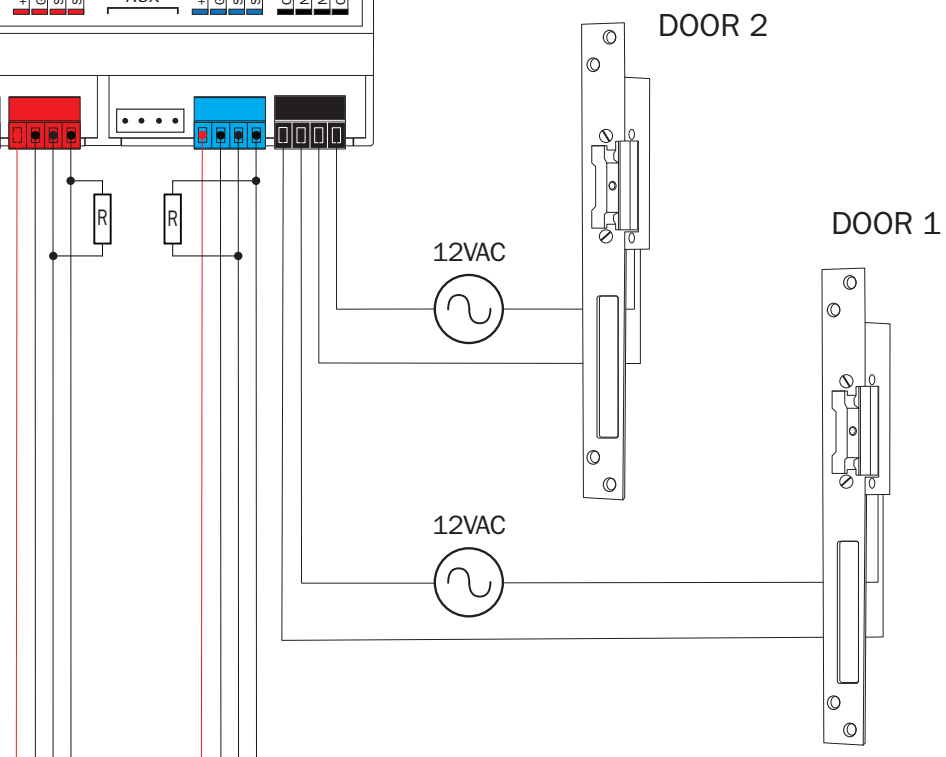
To PoE Switch
(IEEE 802.3af up to 15,4W)

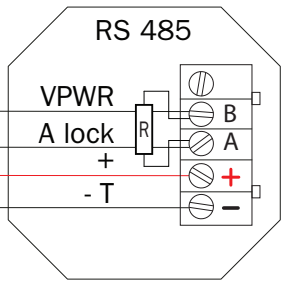
MAX nr. of F9000 readers powered from the Atlas DIN PoE = 2

Delivery of data and power over one CAT5e/CAT6 Ethernet cable.

Total RS485 cable MAX length = 500mt (follow specifications at section 11.1).

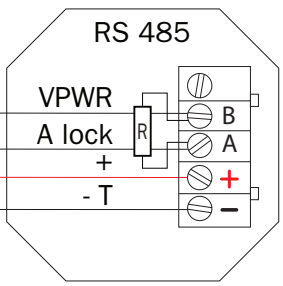
R = 120 ohm (1/4 W)





DOOR 1 IN

F9000 Reader
(1W)

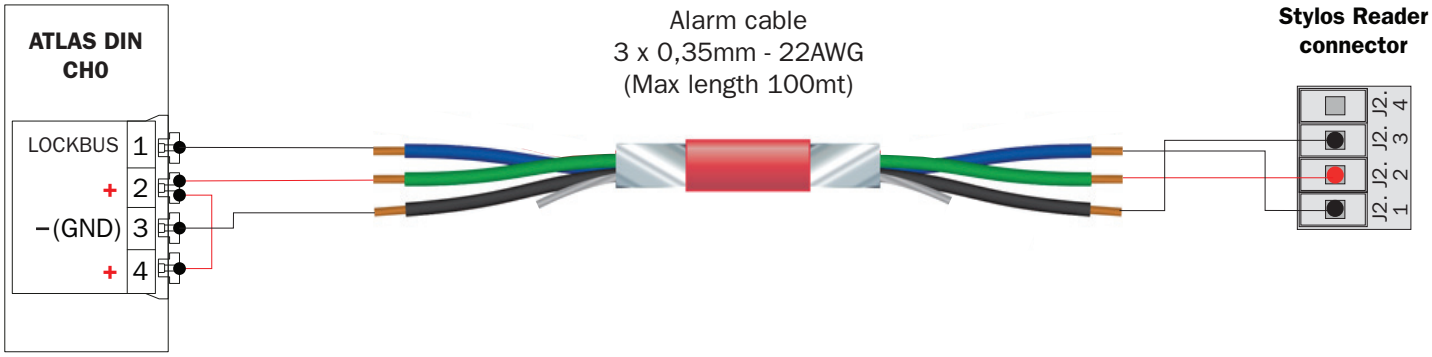


DOOR 2 IN

F9000 Reader
(1W)

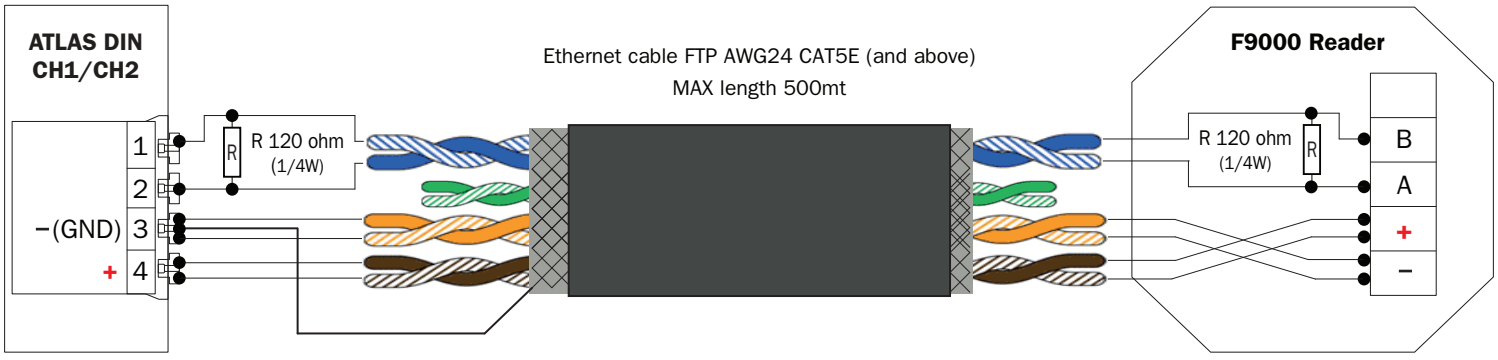
11. ATLAS DIN: LOCKBUS CABLE CONNECTION EXAMPLE TO SINGLE READER (V364 RFID SYSTEM)

- Shielded alarm cable good quality 3 x 0,35mm (22AWG).
- Required Atlas power supply: 12÷24 Vdc.
- Maximum cable length between Atlas and reader: 100mt.
- Recommended capacitance conductor/conductor < 100pF/m.
- Recommended conductors electrical resistance max 90 ohm/Km.



11.1 ATLAS DIN: ETHERNET CABLE CONNECTION EXAMPLE TO SINGLE READER (V364 F9000 SYSTEM)

- Required Atlas power supply: 24Vdc.
- Use an Ethernet cable FTP AWG24 CAT5E (and above).
- Maximum Ethernet cable length between Atlas and F9000 Reder: 500mt.
- Connect a resistance value of 120 ohm (1/4W), on both Atlas and F9000 Reader sides, as shown in the picture below.
- Recommended capacitance conductor/conductor < 100pF/m.
- Recommended conductors electrical resistance max 90 ohm/Km.



PIN	Wire color	Notes
1	White/Blue	same twisted pair (+ R 120 ohm 1/4W)
2	Blue	
3 (–) (GND)	Orange	same twisted pair
	White/Orange	
	Ethernet cable shield	
4 (+)	Brown	same twisted pair
	White/Brown	

PIN	Wire color	Notes
B	Blue	same twisted pair (+ R 120 ohm 1/4W)
A	White/Blue	
+	Brown	same twisted pair
	White/Brown	
–	Orange	same twisted pair
	White/Orange	

12. MAINTENANCE: ATLAS DIN INTERNAL BATTERY

- Atlas DIN has a removable NiMH battery pack. It is placed inside the Atlas and can be easily replaced removing the upper cover (see instructions at section 14: BATTERY REPLACEMENT).

- The NiMH battery pack has 2 functions:
  1. Allows to keep the Atlas internal clock ON (powered), when the Atlas is not connected to any power supply source (Atlas switched OFF).
  2. Allows a safe shutdown of the Atlas in case of black-out or main power supply failure. In this situation the NiMH battery pack keeps that Atlas ON, preventing software damages that may result from the abruptly cut of the power supply. After about 30 minutes (depending on battery pack status and Atlas configuration and connected devices), when the NiMH battery pack level drops under a certain voltage threshold (6Vdc), the Atlas switches automatically OFF.

- The NiMH battery pack measures at full capacity 7,2Vdc. If the Atlas is not powered for a long time (i.e. stock warehouse), the battery pack slowly discharges, becoming exhausted in about 6 months (even with jumper in battery OFF). The complete discharge deteriorates the NiMH battery pack from a chemical point of view, compromising its functionality and performance. To prevent this situation it is necessary to recharge the NiMH battery pack for 24 hours, every 6 months, simply connecting the Atlas to its power supply unit.

- The use of the NiMH battery pack is not intended to provide a continual emergency power to the Atlas in case of main power supply failure. As back-up power supply it is always recommended an UPS (uninterruptible power supply).

- To perform the Atlas internal batteries charging cycle, proceed as follows:
  1. Set the battery jumper in ON position.
  2. Power on the Atlas, by a power supply unit, and keep it powered for 24 consecutive hours.
  3. At the end of the 24 hours disconnect the Atlas power supply: the Backup battery operating LED turns ON (orange LED).
  4. Hold down the Switch OFF push button for 10 seconds until the Switch ON/OFF LED turns ON (red LED).
  5. Wait until all the LEDs switches OFF to confirm the correct procedure.
  6. Marks the date of the last battery charge to perform a new charging cycle within 6 months max.
  7. Set the battery jumper back to OFF position to prevent battery early discharge.

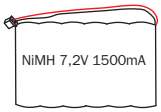
- The Atlas DIN has a jumper, as indicated in the front label, that allows to switch ON or OFF the NiMH battery pack (see section 3: ATLAS DIN OVERVIEW AND FIRST INSTALLATON).
  - Removing the jumper, or placing it in the other free position, you will disconnect the battery pack from the Atlas (Battery OFF).
  - Placing the jumper as indicated in the label, you will connect the battery pack to the Atlas (Battery ON).

- **Battery OFF**
  The Atlas DIN is stocked in the warehouse and delivered from the factory with the jumper set in Battery OFF position. In this way the battery pack is disconnected from the electronic, slowing down the battery discharge and consequently improving battery life and performance. We always need the 24 hours recharge cycle, due to battery self-discharge, but every 6 months and not 3 months like the Atlas Plus. In this condition the NiMH battery pack could last up to 5 years.
  Note that in this configuration the internal clock is not powered and the V364 system will always ask the clock synchronization at the first Atlas switch on and connection.

- **Battery ON**
  This is the standard Atlas operating condition. The battery is electronically connected to the Altas, powering the internal clock and allowing the safe shutdown procedure in case of black-out or main power supply failure.

It is recommended to set the jumper in Battery OFF position, every time the Atlas is not powered for a long time or in case of shipment back to ISEO for analysis or repair. Failure to do that will require to recharge the NiMH battery pack for 24 hours every 3 months at the place of 6 months.

ATTENZIONE - ATTENTION - ATENCIÓN - AUFMERKSAMKEIT - AANDACHT



NiMH battery pack
7,2V - 1500mAh

IT Pericolo d'esplosione se la batteria è sostituita con altra di tipo errato. Smaltire le batterie esaurite in base alle leggi e alle norme ambientali locali.

EN Risk of explosion if the battery is replaced with an incorrect type. Dispose of used battery according to your local environmental laws and rules.

DE Es besteht Explosionsgefahr, wenn die Batterie mit einem falschen Typersetzt wird. Entsorgen Sie verbrauchte Batterien umgehend und im Einklang mit den örtlichen Umweltgesetzen und Richtlinien.

FR Risque d'explosion si la batterie est remplacée par un type incorrect. Eliminez les batteries usagées conformément aux règles et lois environnementales locales en vigueur.

ES Riesgo de explosión si se reemplaza la batería por una incorrecta. Deseche la batería usada de acuerdo con las leyes y normas ambientales locales.

NL Er bestaat een risico van explosie op het moment dat de batterij wordt vervangen voor een incoorect type. Voer gebruikte batterijen af volgens de plaatselijke milieuwetten en -regels.

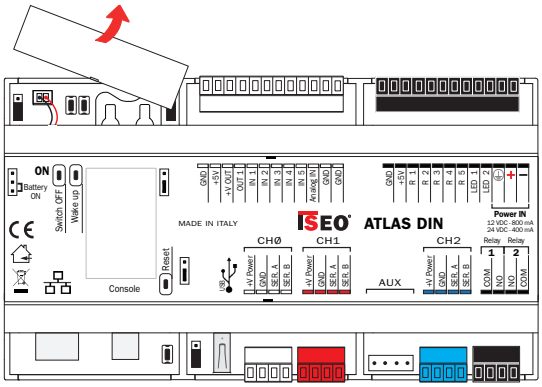
13. TROUBLESHOOTING

- **Problem**: when I disconnect the Atlas DIN from the power supply, it abruptly switches OFF (all leds immediately OFF), without doing the safe shutdown procedure.
  Cause 1: battery jumper in OFF position.
  Cause 2: NiMH battery pack missing or disconnected.
  Cause 3: NiMH battery pack exhausted. It needs to be replaced.

- **Problem**: when I connect the Atlas DIN to the power supply, the V364 system warns me to synchronize the Atlas clock to the system.
  Cause 1: the jumper is set in Battery OFF as per standard factory warehouse setting. In this condition the NiMH battery pack is disconnected from the Atlas and the clock is no powered.
  Cause 2: the jumper is set in Battery ON but the NiMH battery pack is exhausted, missing or disconnected.

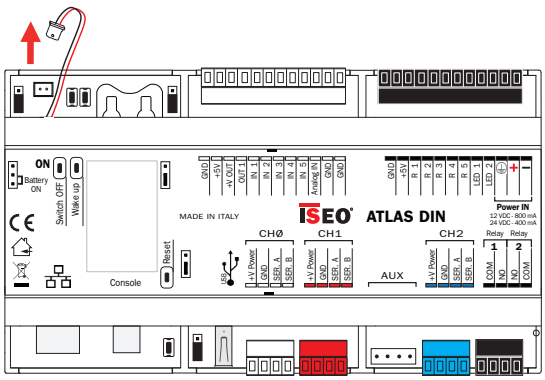
14. MAINTENANCE: BATTERY REPLACEMENT

A

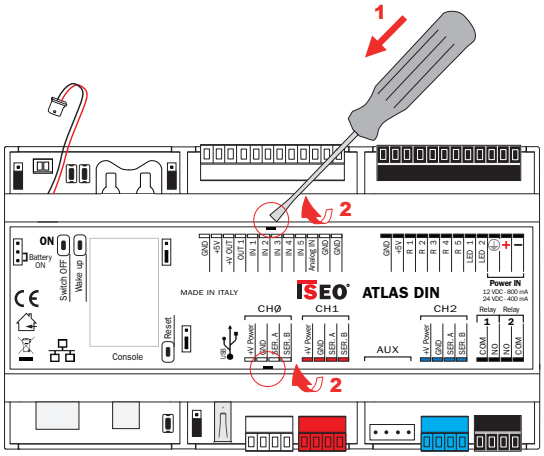


Disconnect the Atlas from power supply before starting the battery replacement procedure.

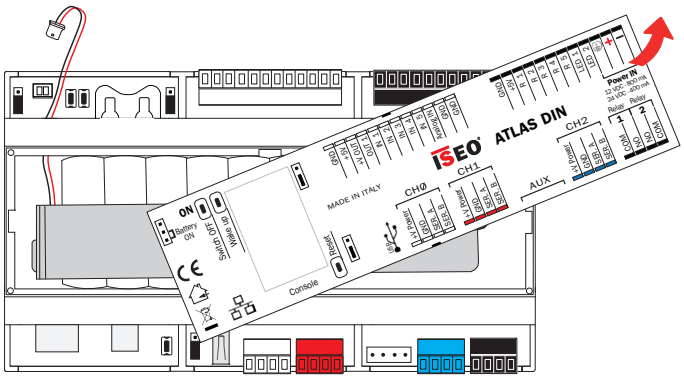
B



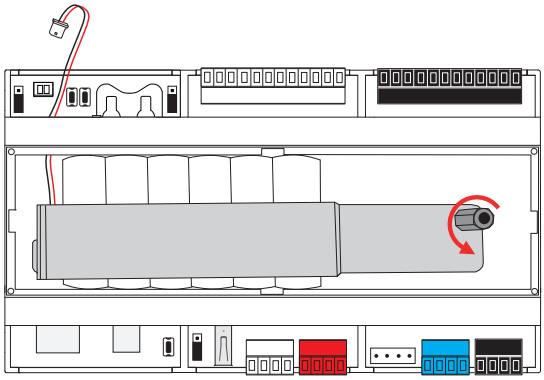
C



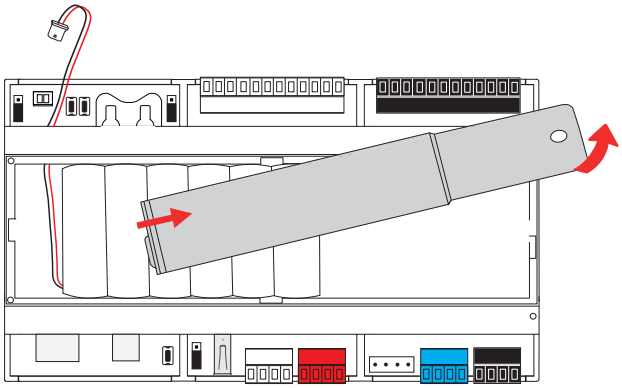
D



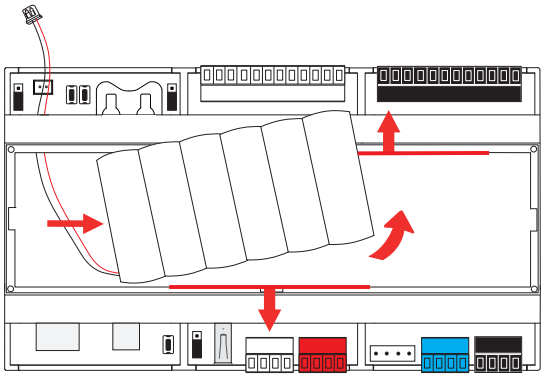
E



F



G



H

Install the new battery following the same steps in the opposite way (from G to A).