

# SBP2CPY24



## Dupline® web-based server for Carpark



### Benefits

- Micro PC with web server capability
- Linux-embedded operating system
- Distributed installations management (up to 10)
- Database replica from up to 10
- Data export in Excel® format
- One Ethernet port
- One multipurpose USB 2.0 ports
- 12 to 28 VDC power supply
- Dimensions: 2-DIN modules
- Protection degree (front): IP40
- Powered by MAIA Cloud: secure and reliable system for remotely managing, setting and operating SBP2CPY24 units Worldwide (through VPN).
- Multi-site park management through the combination of SB2CPY24 and MAIA Cloud

### Description

The SBP2CPY24 is a micro PC with a web server and web service capabilities suitable to gather information from up to ten UWP 3.0 / SBP2WEB24 controllers.

The SBP2CPY24 aggregates data from multiple installations in a single, centralised database, allowing the user to access them anywhere by a standard web browser, through a highly interactive interface.

All data are available as charts, tables and reports based on XLS format.

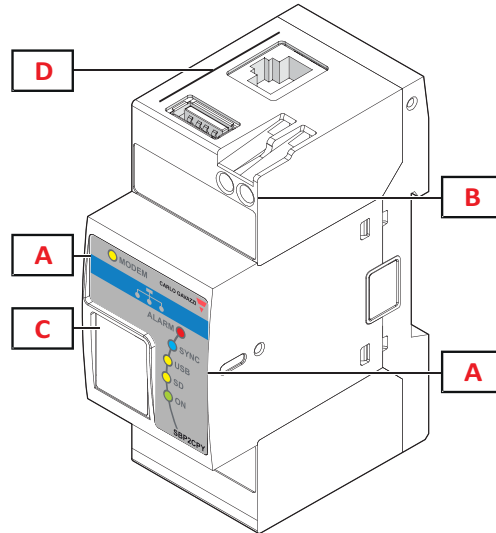
### Applications

Parking Guidance Systems

### Main functions

- The Carpark Server SBP2CPY24 is used in car park applications to monitor/control informations from up to 10 Carpark UWP 3.0 / SBP2WEB24 controllers.

**Structure**



| Element | Component            | Function   |
|---------|----------------------|--|
| A       | LED                  | Green LED: Power ON<br>Yellow LED: Modem<br>Blue LED: Synchronization with UWP 3.0 / SBP2WEB24<br>Yellow LED: USB<br>Yellow LED: Micro SD<br>Red LED: Alarms |
| B       | Screw terminal       | For power supply   |
| C       | Micro SD holder      | Slot to plug-in the proper micro SD or micro SDHC memory and mini USB connector.   |
| D       | USB and RJ connector | USB "A" type connector and RJ45 10/100 BaseTX connector for Ethernet communication.  |

**Main hardware characteristics**

|                            |  |
|----------------------------|--|
| <b>Memory</b>              |  |
| Flash (data)               | 32 GB                                    |
| RAM                        | 128 MB (internal)                        |
| <b>Communication ports</b> |  |
| Ethernet                   | According to ISO9847                     |
| <b>Other ports</b>         |  |
| Mini USB                   | 1, "D" device function for PC connection |



## Features

### Power Supply

|              |  |
|--------------|--|
| Power supply | 15- 24 VDC ( $\pm 20\%$ ), 0.2 A, CL.2 |
| Consumption  | $\leq 5$ W                             |

### Input/output isolation

| Type of input/output    | DC Power supply | Ethernet | USB port "D" (service) |
|-------------------------|-----------------|----------|------------------------|
| DC Power supply         | -               | 0.5 kV   | 0 kV                   |
| Ethernet (LAN/Internet) | 0.5 kV          | -        | 0.5 kV                 |
| USB port "H" (host)     | 0 kV            | 0.5 kV   | -                      |
| USB port "D" (service)  | 0 kV            | 0.5 kV   | -                      |

- 0 kV: inputs/outputs are not insulated
- 0.5 kV rms: the insulation is functional type

### LEDs indication

| Type                                | Status   | Single colour LED<br>Changing according to the function   |
|-------------------------------------|--|---|
| <b>Controlled functions</b>         | Power supply, USB port, SD port, alarms, database synchronization with UWP 3.0 / SBP2WEB24 |   |
| <b>Colour code and working mode</b> | Power ON   | <b>Green LED</b><br>Steady ON: power supply is on   |
|                                     | Modem  | <b>Yellow LED</b><br>Steady ON: SD card is present<br>Steady OFF: SD card is not present<br>Blinking: communication mode active   |
|                                     | Sync (UWP 3.0 / SBP-2WEB24 Database)   | <b>Blue LED</b><br>Steady ON: SBP2CPY24 receives data from all connected UWP 3.0 / SBP2WEB24<br>Steady OFF: SBP2CPY24 does not receive any data from any UWP 3.0 / SBP2WEB24<br>Blinking: SBP2CPY24 receives data from at least one UWP 3.0 / SBP2WEB24 |
|                                     | Alarm  | <b>Red LED</b><br>Steady ON: alarms without acknowledgement in progress<br>Steady OFF: no alarms without acknowledgement  |


**Environmental**

|                                  |   |  |
|----------------------------------|---|--|
| <b>Ambient temperature</b>       | -25°... +65°C (-13°... +158°F)                                      | Operating  |
|                                  | -30° ... +70°C (-22° ... +158°F) (R.H. < 90% non-condensing @ 40°C) | Storage  |
| <b>Insulation (for 1 minute)</b> | See table "input/output Insulation"                                 |  |
| <b>Dielectric strength</b>       | 4000 VAC rms  | for 1 min.   |
| <b>Noise rejection (CMRR)</b>    | >65dB   | 45 to 65 Hz  |
| <b>Overvoltage category</b>      | III   | IEC60664; EN60664.<br>For inputs from string: equivalent to Cat. I, reinforced insulation. |


**EMC**

|                 |             |
|-----------------|-------------|
| <b>Immunity</b> | EN61000-6-2 |
| <b>Emission</b> | EN61000-6-3 |

## Ports

### ▶ USB

|                                   |   |
|-----------------------------------|---|
| <b>Type</b>                       | High speed 2.0 ( $\leq 250$ mA)   |
| <b>Working type</b>               | Hot swap  |
| <b>Communication speed</b>        | 60MB/s (480Mbits/s)   |
| <b>Connections</b>                | "Mini A" type as "Device" function on the front of the housing protected by front cover   |
| <b>Device function (mini USB)</b> | Available on the "D" USB port only, it is a virtual Ethernet port and works as a real Ethernet port performing all the functions of the main Ethernet port. |

### ▶ Ethernet

|                           |   |
|---------------------------|---|
| <b>Protocol</b>           | HTTP  |
| <b>IP configuration</b>   | Static IP / Netmask / Default gateway   |
| <b>DNS</b>                | Primary and secondary DNS as a static or dynamic management (using DHCP server if configured) |
| <b>Client connections</b> | Max 20 simultaneously   |
| <b>Connections</b>        | RJ45 10/100 BaseTX, Max. distance: 100m   |
| <b>Insulation</b>         | See "Input/output insulation" table   |

## Data recording

### ▶ Memory format and data occupancy

| Description   | Value   |
|---|---|
| Total available memory for database and events          | 32 GB   |
| Maximum backup size (on SD or USB)                      | 32 GB   |
| Resolution  | 15 min  |
| Database size management                                | Dynamic, based on:<br>-Current number of UWP 3.0 / SBP2WEB24 units which are replicating their database to SBP2CPY24<br>-Data resolution (15 minutes) |
| Range of historical data available with High resolution | 4 years   |
| Range of historical data available with Low resolution  | 30 years  |

## TCP/IP networking

### Inbound TCP/IP communication

| TCP/IP port number | TCP/IP port description | Purpose   |
|--------------------|-------------------------|---|
| 80                 | HTTP                    | Access to the internal web-server   |
| 443                | HTTPS                   |   |
| 52325              | SSH                     | Remote tunneling feature; connection from UWP 3.0 / SBP2WEB24 to SBP-2CPY24 |

### Outbound TCP/IP communication

| TCP/IP port number | TCP/IP port description | Purpose                      |
|--------------------|-------------------------|------------------------------|
| 53                 | DNS                     | Domain name resolution       |
| 37                 | NTP                     | Network time services access |

## MAIA Cloud ports

### Inbound communication (through the tunnel)

| TCP/IP port number | TCP/IP port description | Purpose  |
|--------------------|-------------------------|--|
| 80                 | HTTP                    | Access to the internal web-server                                |
| 443                | HTTPS                   |  |
| 52325              | SSH                     | Remote tunneling feature; connection from SBP2WEB24 to SBP2CPY24 |

### Outbound TCP/IP communication

| TCP/IP port number | TCP/IP port description | Purpose                      |
|--------------------|-------------------------|------------------------------|
| 53                 | DNS                     | Domain name resolution       |
| 37                 | NTP                     | Network time services access |

### For tunneling

| Access                            | Ports                |
|-----------------------------------|----------------------|
| MAIA Cloud Web                    | 443/tcp and 1194/udp |
| MAIA Cloud Connector App software | 443/tcp and 1194/udp |

*Note: through the tunnelling service, all the above-mentioned ports are supported.*



# Software and interfaces

## Web interface

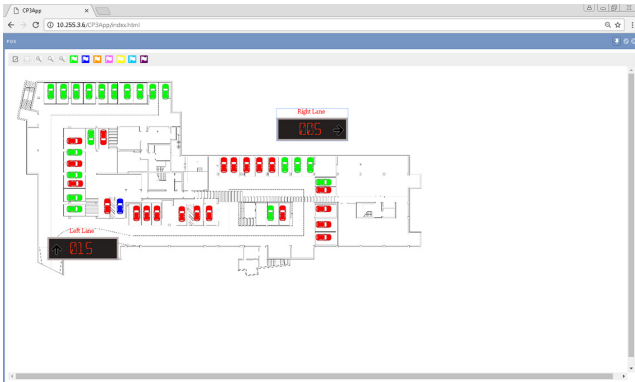
### Main functions

|                                 |   |  |
|---------------------------------|---|--|
| <b>Overall features</b>         | Database storage from up to 10 UWP 3.0 / SBP2WEB24 units; access by web interface to present real time and historical data for all the carpark devices connected to the UWP 3.0 / SBP2WEB24 units   |  |
| <b>Database synchronization</b> | Communication protocol  | WEBAPI   |
|                                 | Replication direction   | Data push from UWP 3.0 / SBP2WEB24 to SBP2CPY24 so as to avoid firewall hassles  |
|                                 | Internet connection SBP2CPY24   | Mobile and wired communication (mobile communication allowed only to access the web interface for maintenance)   |
| <b>Configuration</b>            | The configuration of SBP2CPY24 can be carried by using its integrated web server. No additional configuration software is needed.<br>Configuration of UWP 3.0 / SBP2WEB24 units which exchange data with SBP2CPY24 is made by connecting to the UWP 3.0 / SBP2WEB24 web server <sup>(1)</sup> |  |
| <b>Clock</b>                    | Functions   | Universal clock and calendar with automatic synchronisation through Internet connection  |
|                                 | Battery life  | 10 years   |
| <b>Data and Events logging</b>  | Memory size   | 32 GB  |
|                                 | Storage duration and interval   | See "SBP2CPY24 memory format and data occupancy"   |
|                                 | Storage data types  | According to UWP 3.0 / SBP2WEB24 <sup>(1)</sup>  |
| <b>Alarms management</b>        | Overview  | Local alarm management performed by UWP 3.0 / SBP2WEB24 units and/or centralised alarm management based on SBP2CPY24 is possible.<br>Local alarm management is based on SBP2WEB24 functions <sup>(1)</sup><br>Centralised alarm management allows to send by email alarm queues coming from the UWP 3.0 / SBP2WEB24 unit |
| <b>Data access</b>              | User interface  | Web server access by web browser (Firefox, Chrome, Explorer, Opera, Safari supported)  |
|                                 | Data Export   | Direct export from charts to CSV files<br>Database export to XLS, JPEG, PNG, PDF, SVG files  |
| <b>User management</b>          | Concurrent users  | Up to 20   |
|                                 | Users profiling   | Standard user with access to data and administrators with access to configuration.   |
|                                 | Internationalisation  | Multilingual interface   |

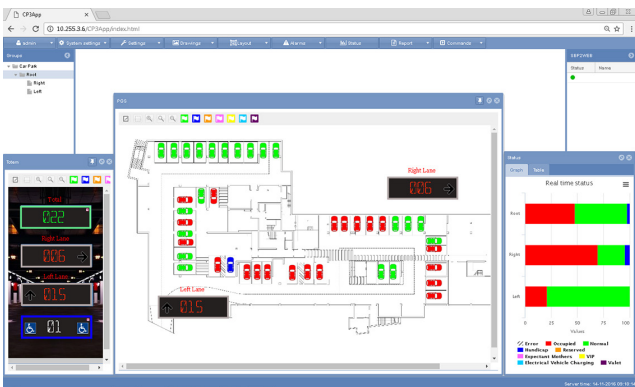
### Notes

<sup>(1)</sup>: Please check the relevant UWP 3.0 / SBP2WEB24 documentation for further information

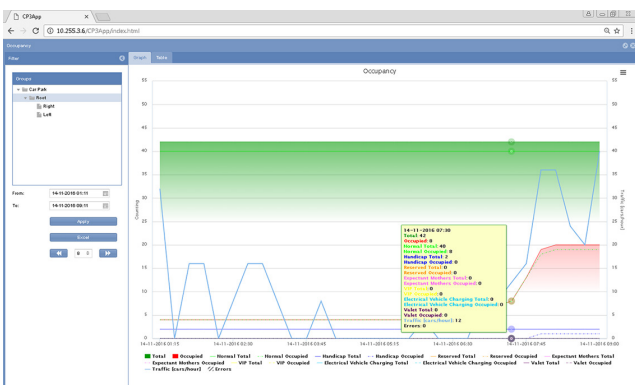
**Web server**



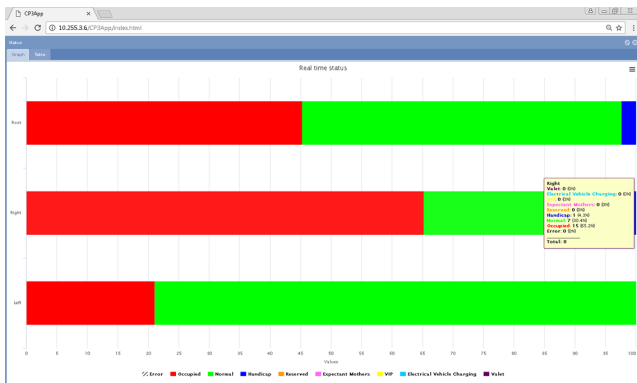
- Home page including:**
- Main toolbar on the top
  - Hierarchical tree view on the right
  - Main variables boxes on the left
  - Alarms view at the bottom
  - Map view in the centre



- Monitor view**
- Each Carpark sensor can be inspected about present and historical trends of any single variable, in the desired time interval



- Analysis view**
- Trends charting tool, allowing to show and compare any combination of variables from one or multiple Carpark sensors



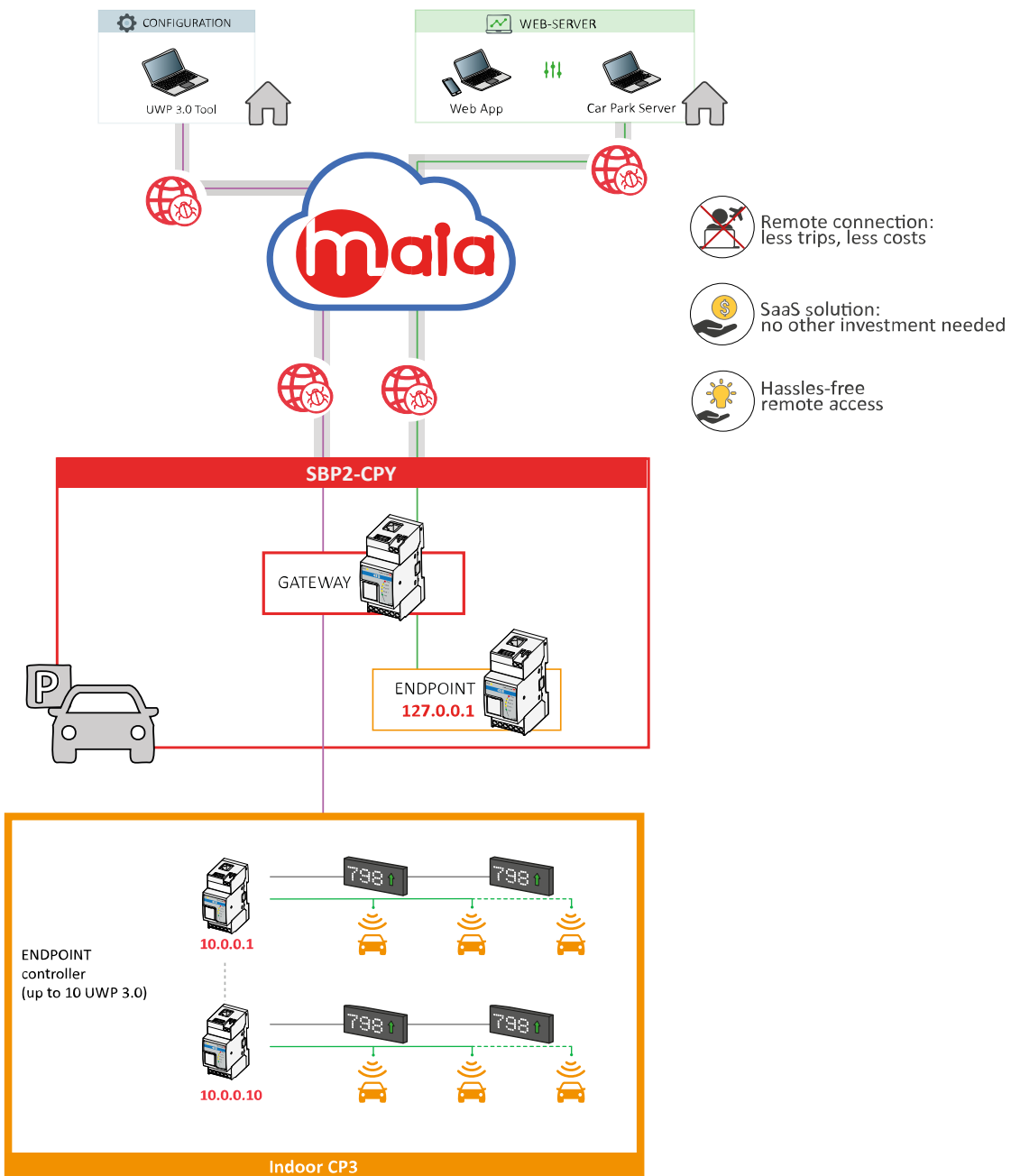
### Status

The user can observe the status of the entire car park or the individual lanes

# MAIA Cloud

Remote access is the key to minimize the Total Cost Of Ownership of a car park installation via SBP2CPY. By leveraging the networking capabilities of MAIA Cloud, embedded within SBP2CPY24, it is possible to remotely access a Car park installation via SBP2CPY24 itself; by using MAIA Cloud endpoint management, SBP2CPY24 can be used as the unique access point to remotely operate both SBP2CPY24 and the UWP30 units on the same LAN.

## MAIA VPN architecture



## Benefits

- **Reduced costs.** Thanks to the VPN safe remote access, users do not need to travel and consequently waste money and time to solve their customers' issues.
- **Easy, hassle-free and automatic** remote networking

## Main functions

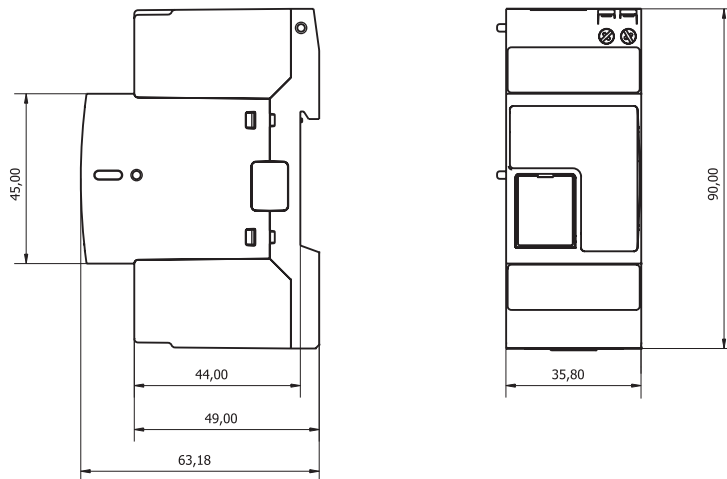
- **Authentication:** MAIA Cloud users can remotely access and operate their SBP2CPY24 powered parking facilities.
- **Security.** Remote connections to MAIA Cloud and to the remote devices thanks to encrypted tunnelling.
- **Hassle-free.** Thanks to the MAIA Cloud tunnelling functions, you do not need to worry about IP address changes and firewalls. You could always access your device, according to your security policies.
- **Remote set-up and operation.** Thanks to MAIA Cloud, it is possible now to remotely:
  - Establishment of a VPN connection to your PC
  - Surfing on the SBP2CPY24 web-interface
  - Send CP3 project to SBP2CPY24 via UWP 3.0 Tool

# Mechanics

## Housing

|                             |                                      |      |
|-----------------------------|--------------------------------------|------|
| <b>Dimensions (HxWxD)</b>   | 35.5 (0.5 - 0) x 90 x 67 mm          |      |
| <b>Housing material</b>     | Noryl, self-extinguishing V-0 (UL94) |      |
| <b>Mounting</b>             | DIN rail                             |      |
| <b>Degree of protection</b> | Front                                | IP40 |
|                             | Screw terminal                       | IP20 |
| <b>Weight</b>               | < 600 g                              |      |

## Dimensions (mm)



## Connection

|                     |  |
|---------------------|--|
| <b>Ethernet</b>     | RJ-45 connector (10/100 Base-T)  |
| <b>USB</b>          | High speed USB 2.0   |
| <b>Power supply</b> | 2 screw terminals 1,5mm <sup>2</sup> max.<br>min/max.screw tightening torque:0,4 Nm/ 0,8Nm |

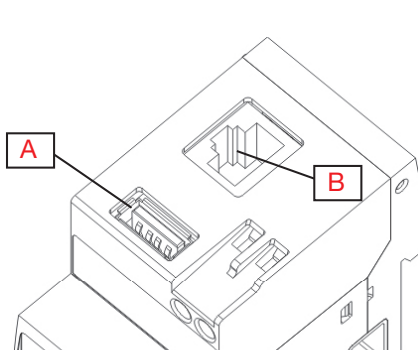


Fig. 1 USB host and LAN port

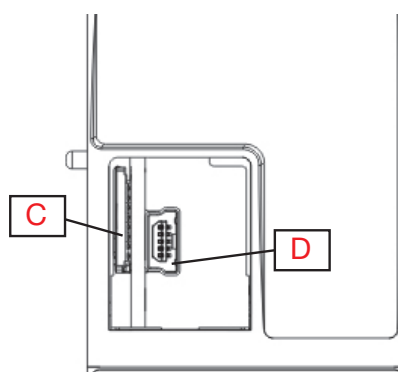


Fig. 2 Micro SD slot and mini USB

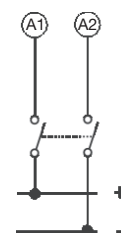
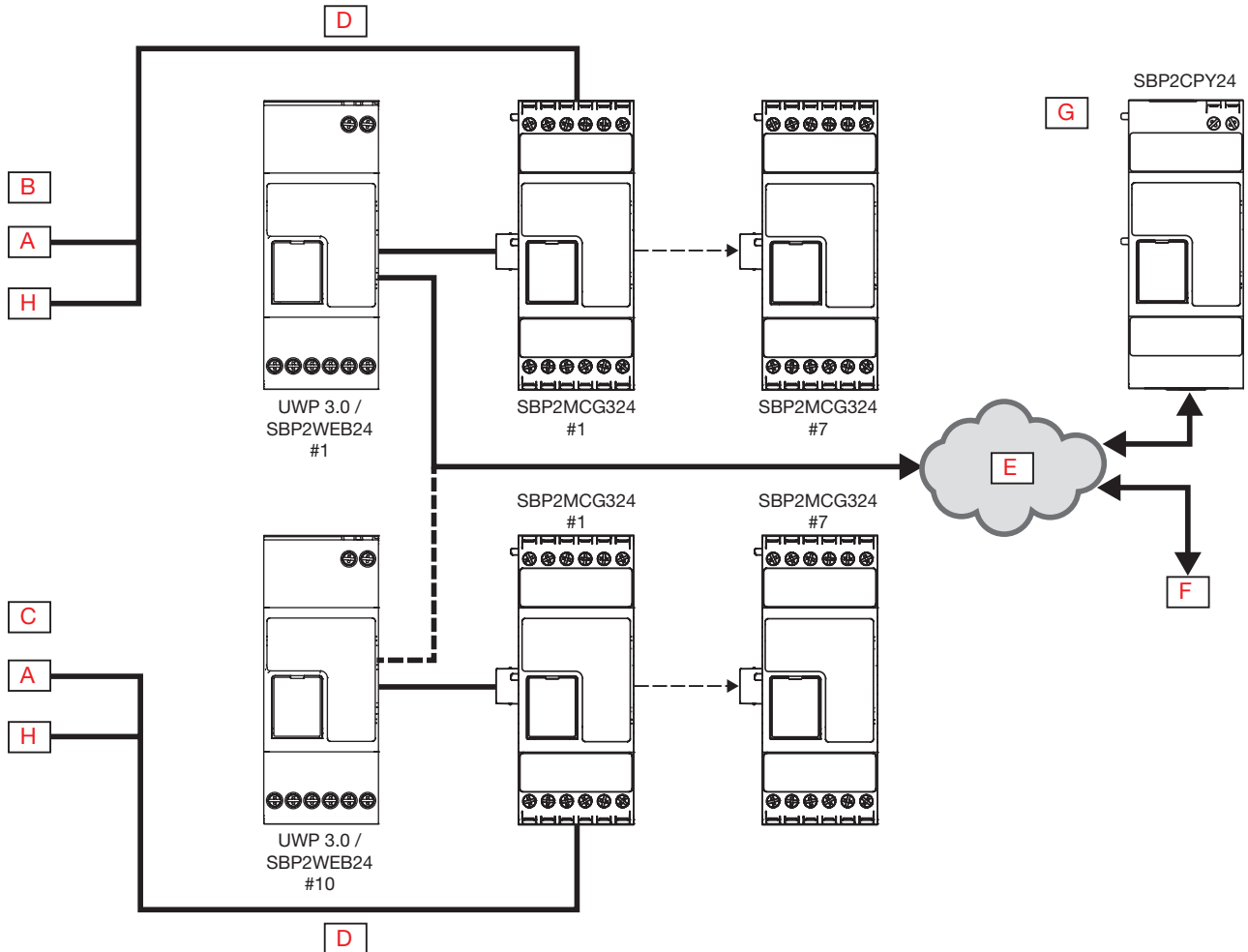


Fig. 3 Power supply



|          |          |          |               |
|----------|----------|----------|---------------|
| <b>A</b> | USB host | <b>C</b> | Micro SD slot |
| <b>B</b> | LAN port | <b>D</b> | Mini USB      |

**Wiring**



|          |                 |          |   |
|----------|-----------------|----------|---|
| <b>A</b> | 50 Sensors      | <b>E</b> | Internet  |
| <b>B</b> | Installation 1  | <b>F</b> | Computer  |
| <b>C</b> | Installation 10 | <b>G</b> | Centralized database<br>User interface<br>Data management tools |
| <b>D</b> | 3-wire Dupline® | <b>H</b> | 40 Sensors  |

## Compatibility and conformity

### Approvals and markings

|            |   |
|------------|---|
| CE-marking |  |
| Approvals  |  |

#### UL notes

- This product is intended to be supplied by a Listed Information Technology Equipment AC Adaptor marked NEC Class 2 or LPS
- Max ambient temperature: 50°C (122°F)





## References

### Compatible devices

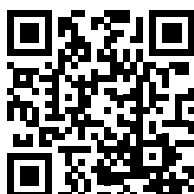
| Device               | Instruction manual   |
|----------------------|--|
| UWP-MODEM-KIT-4G-E02 | <a href="http://www.gavazziautomation.com/UWP-Modem-Kit-4G-E02.pdf">www.gavazziautomation.com/UWP-Modem-Kit-4G-E02.pdf</a> |

### MAIA Cloud licences

| Licence            | Description                      | Document   |
|--------------------|----------------------------------|--|
| UWP-LICENCE-M01B   | MAIA PLUS LICENCE-12 MONTHS VPN  | <a href="http://www.gavazziautomation.com/MAIALicence_A4.pdf">www.gavazziautomation.com/MAIALicence_A4.pdf</a><br><a href="http://www.gavazziautomation.com/LicenceCode_EIM.pdf">www.gavazziautomation.com/LicenceCode_EIM.pdf</a>           |
| UWP-LICENCE-M02A   | MAIA STANDARD LICENCE-2 DEVICES  |  |
| UWP-LICENCE-M02B   | MAIA PLUS LICENCE-24 MONTHS VPN  |  |
| UWP-LICENCE-M04B   | MAIA PLUS LICENCE-48 MONTHS VPN  |  |
| UWP-LICENCE-M05B   | MAIA PLUS LICENCE-60 MONTHS VPN  |  |
| UWP-LICENCE-M10A   | MAIA STANDARD LICENCE-10 DEVICES |  |
| UWP-LICENCE-M25B   | MAIA PLUS LICENCE-300 MONTHS VPN |  |
| UWP-LICENCE-M50A   | MAIA STANDARD LICENCE-50 DEVICES |  |
| UWP-ACTIVATION-KEY | MAIA ACTIVATION LICENCE          | <a href="http://www.gavazziautomation.com/MAIAActivation_A4.pdf">www.gavazziautomation.com/MAIAActivation_A4.pdf</a><br><a href="http://www.gavazziautomation.com/ActivationKey_EIM.pdf">www.gavazziautomation.com/ActivationKey_EIM.pdf</a> |

### How to order

| Code             | Description    |
|------------------|----------------|
| <b>SBP2CPY24</b> | Carpark server |



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