

# Expansion of existing AMTRON® Xtra/ Premium charging infrastructure

## Challenges

Networked charging stations are needed, especially in commercial applications, for example because the available energy must be allocated to the connected vehicles to prevent an overload of the power supply and power distribution network. Many of today's installations are based on AMTRON® Xtra/Premium units. These units are no longer available. Examples of how these installations can be expanded using AMTRON® Professional devices are shown below (hybrid versions are also technically possible).

### Use case 1

The existing charging infrastructure is to be networked for local load management purposes only.

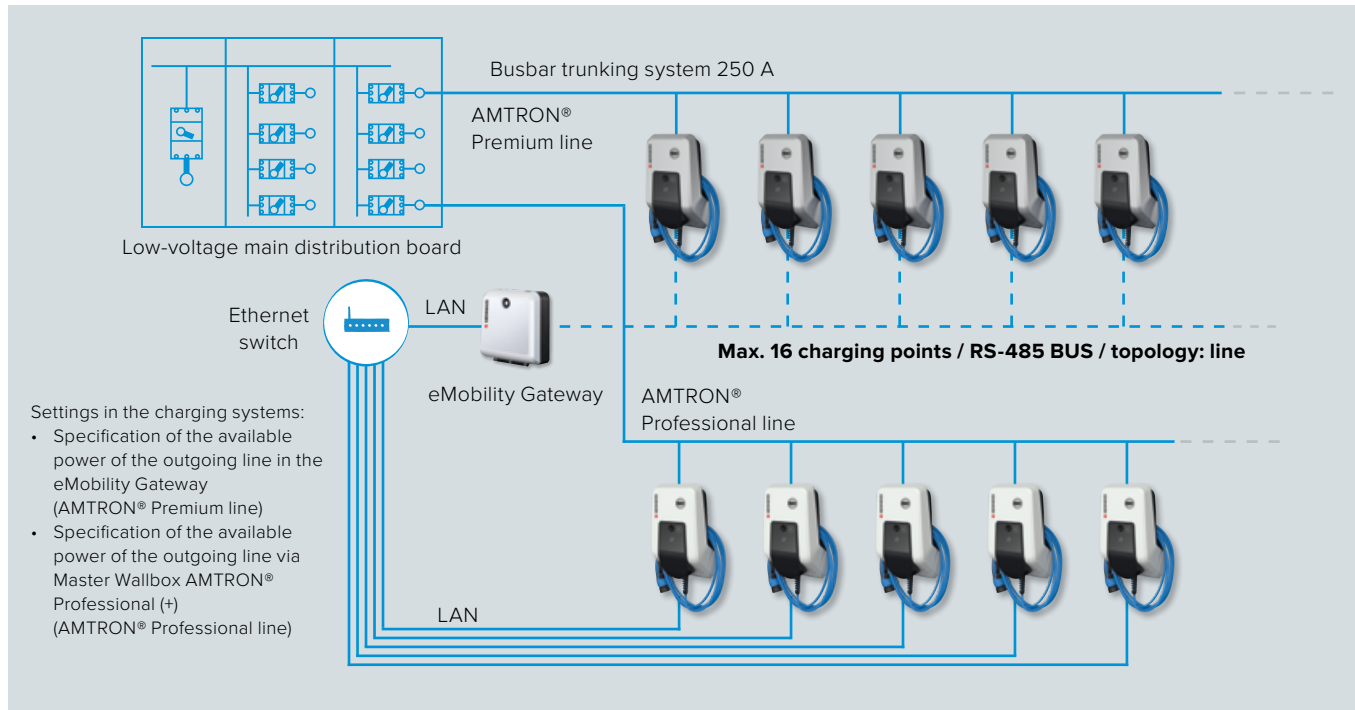
### Use case 2

In addition to local load management, the charging infrastructure is also to be connected or remain connected to an OCPP backend.



## Proposal: Use case 1a

**AMTRON® Professional (+) without energy management system = no networking of both lines**



### Networking (existing) AMTRON® Premium with eMobility Gateway

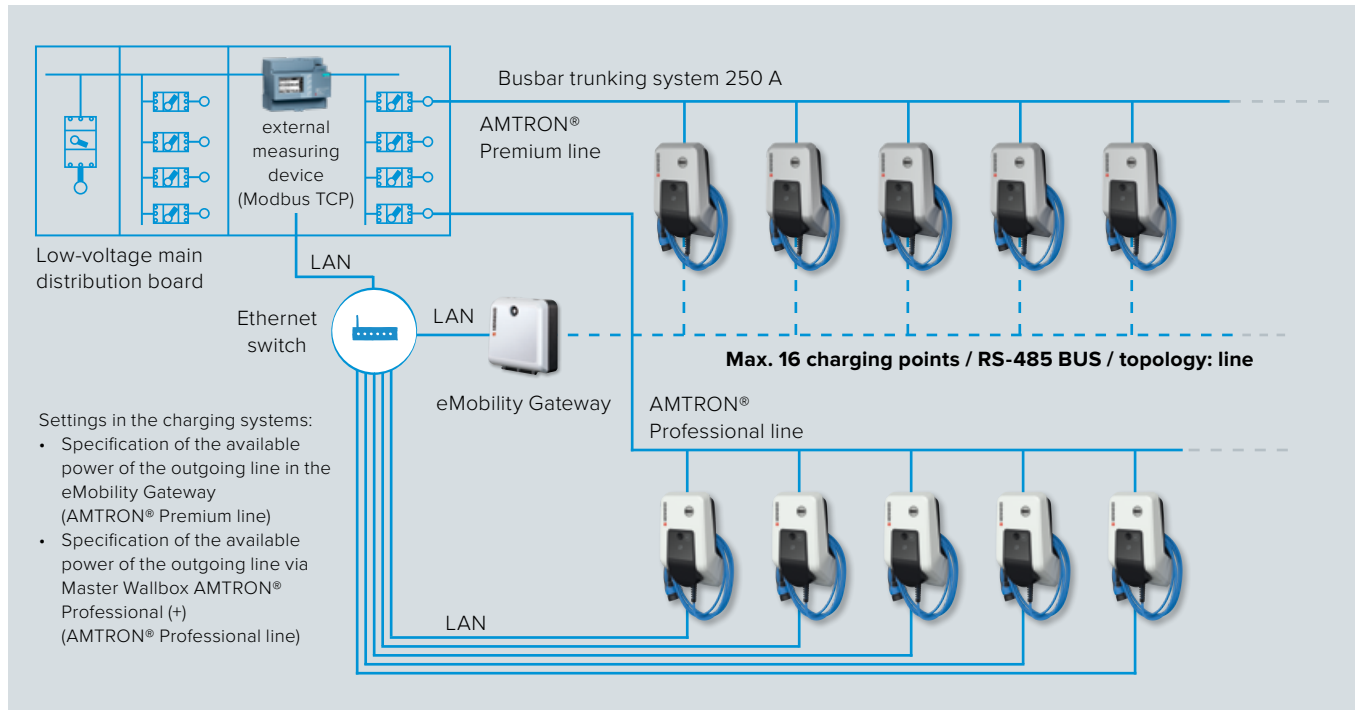
- RS-485 BUS
- Topology: Line
- Max. 16 charging points
- eMobility Gateway is controlled by OCPP command from the energy management system and eMobility Gateway distributes maximum available power **or** maximum available power of the outgoing line
- **No** adjustment to align with the total consumption of the property or the consumption of AMTRON® Professional
- Connection to the backend via eMobility Gateway

### Networking AMTRON® Professional (+)

- LAN (Ethernet)
- Topology: Star
- Max. 100 charging points per load management group
- Various load management options (see Application note)
- Master Wallbox AMTRON® Professional+ distributes maximum available power of the outgoing line
- **No** adjustment to align with the total consumption of the property or the consumption of AMTRON® Premium
- Connection to the backend via AMTRON® Professional+

## Proposal: Use case 1b

**AMTRON® Professional (+) without energy management system = no networking of both lines**



### Networking (existing) AMTRON® Premium with eMobility Gateway

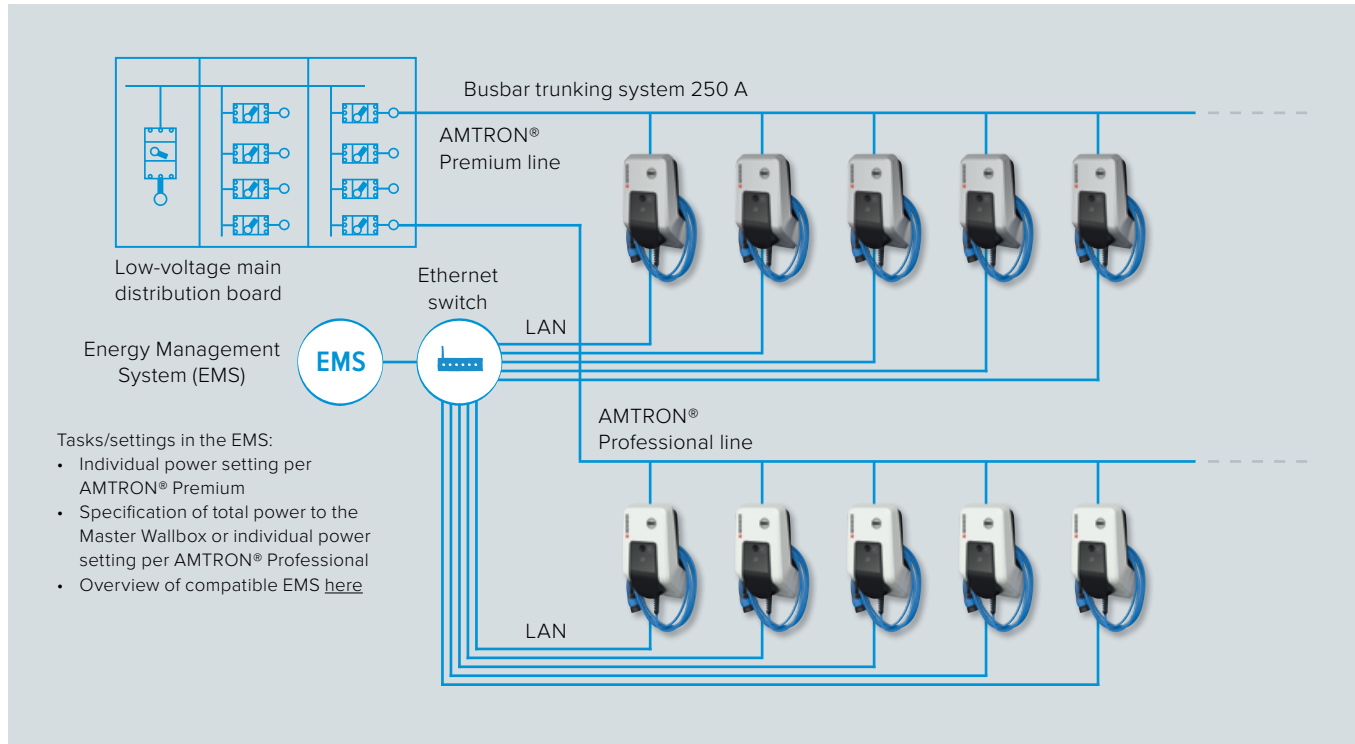
- RS-485 BUS
- Topology: Line
- Max. 16 charging points
- eMobility Gateway is controlled by OCPP command from the energy management system and eMobility Gateway distributes maximum available power **or** maximum available power of the outgoing line
- **No** adjustment to align with the total consumption of the property or the consumption of AMTRON® Professional
- Connection to the backend via eMobility Gateway

### Networking AMTRON® Professional (+)

- LAN (Ethernet)
- Topology: Star
- Max. 100 charging points per load management group
- Various load management options (see Application note)
- Master Wallbox AMTRON® Professional+ distributes maximum available power of the outgoing line
- A Modbus meter can be used to adjust the total consumption of the property in order to achieve a dynamic response from the AMTRON® Professional. In this case, the AMTRON® Premium systems would be regarded as external consumers.
- Connection to the backend via AMTRON® Professional+

## Proposal: Use case 1c

### AMTRON® Professional **with** energy management system **without** backend connection



#### Networking (existing) AMTRON® Premium without eMobility Gateway

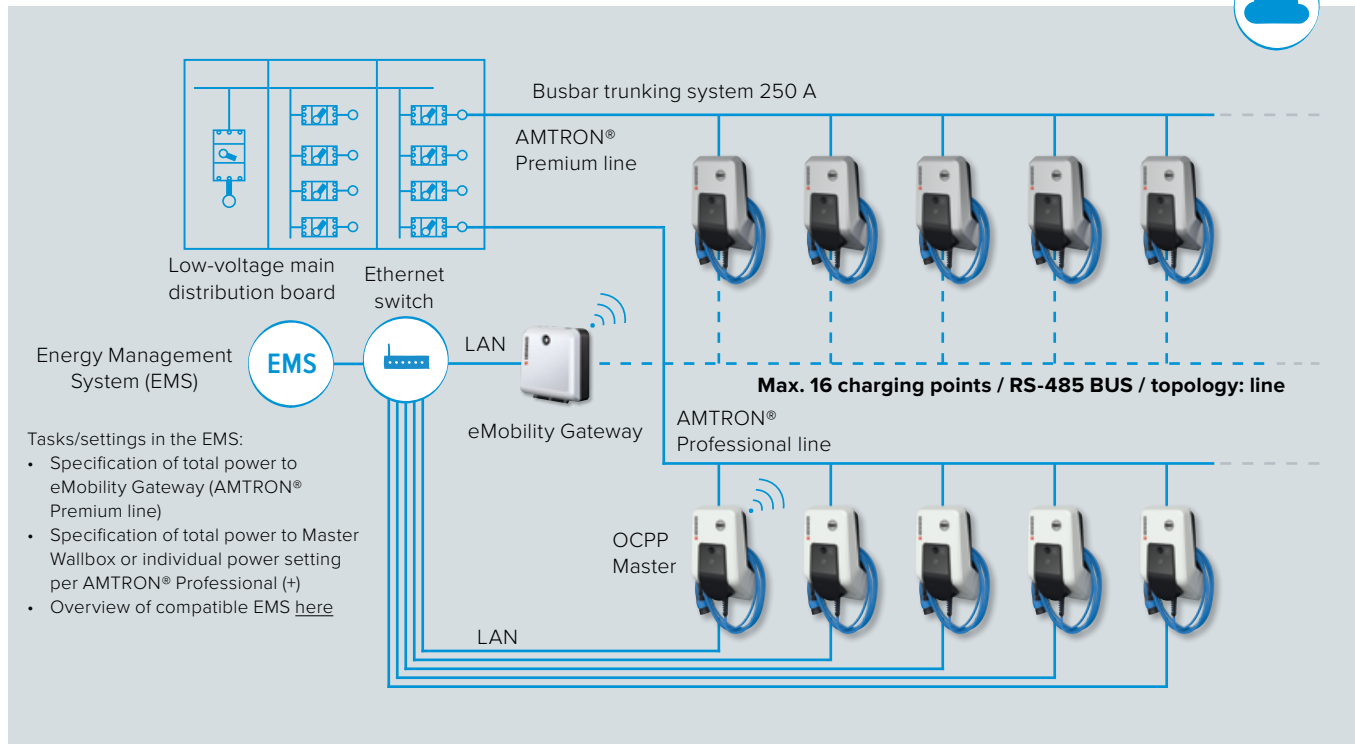
- LAN (Ethernet)
- Topology: Star
- Devices are controlled as a Modbus TCP server by the energy management system
- **No** phase-accurate measured values as a basis for the EMS
- Adjustment to align with total consumption of property or consumption of AMTRON® Professional via EMS

#### Networking AMTRON® Professional (+)

- LAN (Ethernet)
- Topology: Star
- Max. 100 charging points per load management group
- Various load management options (see Application note)
- Devices are controlled as a Modbus TCP server by the energy management system
- Phase-accurate measured values as a basis for the EMS
- Adjustment to align with the total consumption of the property or the consumption of the AMTRON® Premium via the EMS

## Proposal: Use case 2

**AMTRON® Professional (+) with energy management system and including backend connection**



### Networking (existing) AMTRON® Premium with eMobility Gateway

- RS-485 BUS
- Topology: Line
- Max. 16 charging points
- eMobility Gateway is controlled by OCPP command from EMS
- **No** measured values as basis for EMS (only default possible)
- Adjustment to align with total consumption of property or consumption of AMTRON® Professional via EMS
- Connection to the backend via eMobility Gateway

### Networking AMTRON® Professional (+)

- LAN (Ethernet)
- Topology: Star
- Max. 100 charging points per load management group
- Various load management options (see Application note)
- Devices are controlled as a Modbus TCP server by the energy management system
- Phase-accurate measured values as a basis for the EMS
- Adjustment to align with the total consumption of the property or the consumption of the AMTRON® Premium via the EMS
- Connection to the backend via AMTRON® Professional+