chargebyte GmbH

Charge Control Y

An MCS EVSE controller with Open-Source charging stack.

Designed specifically to meet the requirements of Megawatt Charging System (MCS) charging stations, the Charge Control Y supports Charge Enable (CE), Insert Detection (ID) and 10BASE-T1S Ethernet communications. Engineered to deliver high performance and reliable communication with MCS-enabled electric vehicles (EVs), the Charge Control Y is built on the robust i.MX93 platform.

Key Features

IEC 61851 & SAE J1772 Compatibility

- Works with MCS according to IEC 61851-23-3 and ISO 15118-20, ensuring smooth communication with all types of EVs.

Safety Compliance

- Renesas co-processor monitors and controls CE, ID and HV ready signals
- PT1000 plug temperature monitoring
- Firmware meets IEC 61508 standard



Software Stack Optimization

- Plug-and-Play with EVerest, the popular Open-Source charging stack
- Also available as commercial LTS version including professional support
- Well maintained, open Yocto BSP



10-Base T1S & ISO 15118-20 Support

- 10-Base T1S support via Microchips LAN8651
- 15118-20 including MCS amendment

Advanced Security

- TPM for secure hardware-based key storage
- RTC support via I2C for precise timekeeping[i]
- Integrated EdgeLock secure enclave in i.MX93 SoC

Host Controller

- NXP i.MX93 1.7 GHz
- 1 GB DDR4 RAM
- 8 GB eMMC

Interfaces

- 2x LAN
- 10-Base T1S
- Charge Enable (CE)
- Insertion Detection (ID)
- HV ready
- Emergency Input
- PT1000: 4 channels
- CAN