

CAN in laboratory automation

CiA has scheduled a web-based workshop, in which CiA members and invited guests discuss and identify requirements for future embedded CAN-based control networks in laboratory automation systems. This includes to review the related CiA profile family developed some years ago:

- CiA 434-1: General definitions;
- CiA 434-2: Device profile for dilutor, dispenser, and pump units;
- CiA 434-3: Device profile for heating, cooling, and shaking units.

This CiA application profile series specifies the classic CANopen communication between a laboratory automation manager and laboratory automation units. The laboratory automation unit implements a specified FSA (finite state automaton). The laboratory automation manager can choose between two pre-defined control structures for laboratory automation units. On the one hand, the laboratory automation units can be controlled by single-operating commands. On the other hand, a quasi-autonomous laboratory-unit operation can be achieved by “pre-configured workplans”. In this case, the laboratory automation manager just monitors the correct processing of these work plans. In addition to the general framework, application data has been specified for dilutors, dispensers, and pump units (Part 2) as well as for heating, cooling, and shaking units (Part 3).

The workshop participants will also discuss, whether new CAN data link layers such as CAN FD or CAN XL are needed. At the end of the workshop, the results will be collected. The workshop serves as a starting point for new activities of the SIG laboratory automation.

Date and time: October 06, 2022 start: 15:00 to 17:00 (UTC+2), e-meeting

Agenda*

- Welcome and introduction (Reiner Zitzmann, CiA)
- Overview on CiA profiles for laboratory automation (Reiner Zitzmann, CiA)
- Overview on latest CAN technology (Holger Zeltwanger, CiA)
- Contributions by attendees
- Discussion on open issues
- Workplan and next steps

* The agenda is subject to change

Audience: Decision makers as well as device and system designers.

Registration: The workshop is for CiA members. Persons from CiA non-member companies may participate on request. For registration contact CiA (secretary@can-cia.org).