

CiA 510 RELEASED AS DS

## CANopen services on J1939

The CiA 510 document has been released as Draft Specification (DS). It is now part of the CiA (CAN in Automation) specification subscription and is therefore also available for non-members. CiA 510 specifies the mapping of CANopen protocols to J1939 parameter groups (PGs).



*The CiA 510 document specifies the mapping of CANopen protocols to J1939 parameter groups (Source: CiA/Adobe Stock)*

This CiA specification is suitable to adapt devices using CiA profiles to J1939-based networks. Such devices implement the CANopen dictionary as specified in CiA 301. The document specifies the J1939 PGs “CANopen application message (CAM11 and CAM12)” and “CANopen Emergency message (CEM)”. They tunnel so-to-speak CANopen SDO messages respectively CANopen EMCY messages. This enables device manufacturers to implement a CANopen-compliant data dictionary. The mapping of profile-specific PDOs (process data objects) is specified in the CiA device and application profile series. Currently, two J1939-related profiles are available: CiA 406-J for encoders and CiA 410-J for inclinometers.

First device suppliers have implemented this in their sensors. The benefit is that the end-user can configure the products as known from CANopen by means of SDO services, but can connect the sensors physically to J1939 networks. The advantage for the device designer is that the application software is the same for J1939- and CANopen-connectable products including the configuration functionality.

[CW](#)