JVL Distributors

Date   Ref-KK
24 February 2004

Re. : CANOpen

In order to clarify the CANOpen structure we have produced this explanation which can assist you when you are facing customers. We have found that there are some confusing issues and interpretations.

Abbreviation:

DS = Draft Standard (Fixed)
DSP = Draft Standard Proposal (Not yet fixed)
CiA = CAN in Automation (The organization, who produce the CANOpen standards)
V = Version (or revisions of a standard)
Node = One unit, which is connected to the network

Some years ago Bosch came up with the idea of a CAN network, this was mainly developed for the car industry, it is a multi master system that works without direct adressing of each of the nodes.

CAN network is good, if you are the producer of the nodes, but for industiral purporses it is not practical as there is no specification/rules on how the units work.

CANOpen (protocol) was developed in order to give each node, even from different producers the possibilty of communicating in the same network, but based on CAN network.

The standard for this is DS 301 V 4.0.2 (Can Open application layer and communication profile). This means when you are using Can Open it is implicit that it is based on DS 301.

DS301 describes all network related functions, which the nodes are doing. Example: How each node has an address and how they are configured according to the network (not how the motor has to be configured). Furthermore it describes the DS301 that a node can have some "manufacture specific parameters", this makes it possible for each supplier to specify how the node is working. Example: parameter 1 = Position, parameter 2 = speed etc.…

By reading/writing these paramters is it possible to control the node, but it is not a standard.

In order make it easy to adapt the node in principle. Example: An I/O-module but from different producers, so that the card from 2 suppliers are interchangable. For this purpose the DSx4xx designed. As an example can DS 401, DSP402 can be mentioned.