easYgen-3500XT Redundant Network Communication

Simon - 2024-10-10 - communication

Short description of the Easygen3000XT redundant network communication

Basics

- The system is not PRP, but a Woodward own system. It resembles PRP, however.
- Every device sends cyclically UDP messages with process data on both ports simultaneously
- Cycle time is typically 80msec
- The data on both ports are identical
- Messages are broadcast messages and every device listens to all messages from all other devices on both ports
- Every UDP message has a sequence number
- When a device receives a UDP message on either of its two ports
    - If a message with the same sequence number was already received on the other port, it is discarded
    - Otherwise the messages is processed
- There is a teach in mechanism at setup, to tell all device in a system who are the others in the system and from whom messages are to be expected
- There are timeout monitorings

Fail Over

- The system tolerates disruptions/break of one Ethernet line. As long there is at least one of the both lines active, there will be no influence on operation.
- There is no fail over mechanism if a device completely fails, and a second (until then dormant) device would have to take over.