GEBHARDT Automation GmbH | Thüngenfeld 3 | D-58256 Ennepetal
info@gebhardt-automation.de www.gebhardt-automation.de

DUPLEX /LD, DUPLEX /CMD

dual redundant system, distributed



Two units can be combined via safe Ethernet communication as dual redundant, multiple fault tolerant DUPLEX system. Hardware and software voting for inputs, outputs and internal values depends on system architecture.

Hardware- output Voting DUPLEX
degradation for significant failures: 2-1-0
HFT = 1, ß = 2%, SFF > 99%, DC >99%
After the first fault the remaining system is still suitable for SIL3 in accordance to IEC 61508 !

Software- output Voting DUPLEX
degradation for significant failures: 2-2-0
HFT = 1, ß = 2%, SFF > 99%, DC >99%
After the fault the remaining system is still suitable for SIL3 in accordance to IEC 61508 !

Voting for inputs and internal values DUPLEX
Configurable voting and degradation at failure is supported by firmware. Typical configurations are 1oo2, 1oo2D or 2oo2D for voting and failure degradations of 2-1-0 or 2-0

Each unit has 18 + 3 slots. All two units are externally coupled via redundant Ethernet.

The dual redundant system is named DUPLEX /LD if two identically equipped units are installed.

The dual redundant system is named DUPLEX /CMD, if each unit based on two backplanes like in a BASIC /CM rack

Technical data

- DUPLEX-System based on 2x BASIC /L systems
- All two systems connected via redundant Ethernet with safety protocol
- MPU-M1A or ICU-M4 L processor cards. Redundant hot-standby processor cards are available as option.
- MCxxx-S safety i/o-cards
- standard non-safety i/o cards
- key switch for operating mode selection, one for each unit
- max. number of i/o: approx. 2x 300
- EMC-compatible construction, surface chromated
- operating-temperature range: 0° ... +60°C

applied standards

- IEC 61508
- EN ISO 13849
- IEC 62061
- IEC 61511
- IEC 61131
- EN 50178

DATASHEET