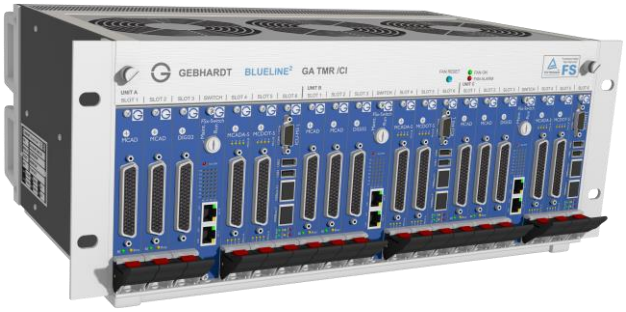
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TMR /CI BlueLine²

triple modular redundant control and safety system



Functional Safety
TÜVRheinland CERTIFIED
www.tuv.com ID 0600000000

SIL3

Triple redundant system with three units and 6 + 1 slots for each unit. 6 slots are usable for GA cpu and i / o cards and one slot is usable for the FSx-Switch card. All three units are integrated in a 19 inch 4HE rack and internally coupled via redundant Ethernet.

Hardware- output Voting TMR
degradation for significant failures: 3-2-0
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 TMR
degradation for significant failures: 3-2-2-0
HFT = 2, ß = 2%, SFF > 99%, DC >99%
After the first and second fault the remaining system is still suitable for SIL3 in accordance to IEC 61508 !

Voting for inputs and internal values TMR
Configurable voting and degradation at failure is supported by firmware. Typical configurations are 3oo3D, 2oo3D, 1oo3D for voting and failure degradations of 3-2-1-0, 3-2-0 or 3-0.

Technical data

- 19 inch rack, 4U high
  WxHxD = 483 x 191 x 351 mm
- 3x FS1 data bus, each with 6 + 1 slots, redundant Ethernet integrated
- redundant power supplies:
  2x GA ACE300F, 115/230VAC,
  or
  2x GA DC24-00-01, 24 VDC
- 3x FSx-Switch cards
- MPU-M1A or ICU-Mx processor cards
- MCxxx-S safety i/o-cards
- standard non-safety i/o cards
- 3x key switch for operating mode
- max. number of i/o: approx. 3x 100
- 1x front insertable fan (hot swap), with fan monitoring
- 1x air filter, removable from rear (hot swap)
- EMC-compatible construction, surface chromated
- swing-frame mountable
- operating-temperature range: 0° ... +60°C

applied standards

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

DATASHEET