

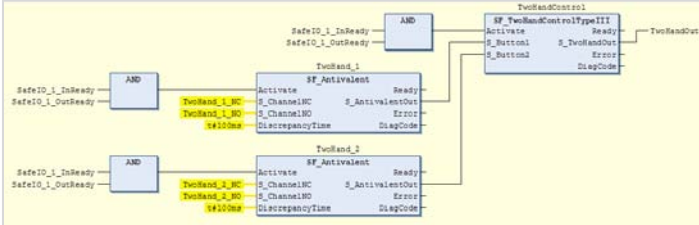
Kuhnke IO Line CODESYS Safety PLC and Safety I/O

- Modular safety control system
- Safety FD editor integrated in CODESYS
- PLCopen safety components
- Cross-communication between PLC and safety PLC
- Online monitoring of safe and unsafe data
- Fail-safe over EtherCAT® (FSoE)
- SIL 3 to IEC 61508
- PL e to DIN EN ISO 13849

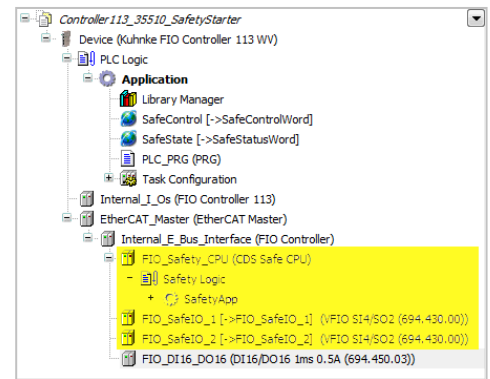


Programming:

- CODESYS V3.5 or higher with safety extension
- PLCopen safety components
- Integrated safety FBD editor
- Safety application integrated in project tree



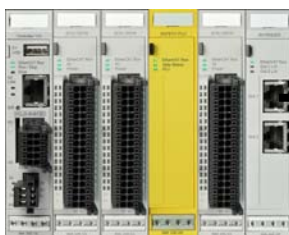
CODESYS V3 safety FBD editor



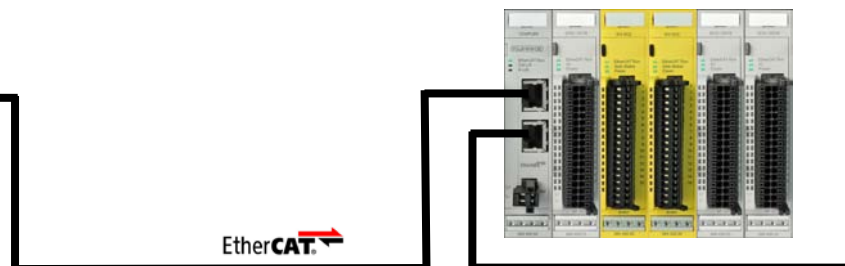
CODESYS V3 devices explorer with integrated safety

System configuration example:

- Standard CODESYS V3 PLC
- Kuhnke FIO bus coupler
- Kuhnke FIO Safety PLC
- Kuhnke FIO Safety I/O
- Expandable by any FIO module



Kuhnke FIO controller with safety PLC



Kuhnke FIO assembly with safety I/Os

Kuhnke FIO

Control Technology

Technical data	
Type	Kuhnke FIO Safety PLC (safety control unit)
Part number	694 330 00
Runtime system	CODESYS RT Safety
Processor	Cortex M4
Programming tool	CODESYS v3.5 SP5 or higher with integrated safety function modules
E-bus power consumption	200 mA – 300 mA
Power supply voltage	From bus coupler through E-bus connector
Signal indication	Status LEDs: EtherCAT [®] , Safety, Power
Type	Kuhnke FIO Safety SDI4 / SDO2 (safe input/output terminal)
Part number	694 430 00
Processor	Cortex M3
Number of inputs	4 safe inputs (configurable properties)
Number of outputs	2 safe outputs ($I_{max} = 2.0 A$)
Clock pulse outputs (OSSD)	4
Response time	< 1 ms (read input, write to E-bus)
Error response time	≤ watchdog time (configurable)
Extended diagnostic information	Via CoE
E-bus power consumption	275 mA
Power supply voltage	24 VDC (-15 % / +20 %)
Signal indication	LEDs per I/O: locally allocated to the terminal point, status LEDs: EtherCAT, Safety, Power
Terminals	18-pin spring-type connector with mechanical ejector
General data	
Safety standards	IEC 61508 SIL 3 and DIN EN ISO 13849-1 PL e
Electrical interference	IEC 61131-2, EN 61000-6-2/ EN 61000-6-4
Resistance to vibration	EN 60068-2-6
Impact resistance	EN 60068-2-27
Fieldbus port	EtherCAT 100 Mbit/s LVDS: E-bus
Installation / mounting position	35 mm DIN rail / horizontal
Shield	Provided directly by the module
Ambient conditions	0 °C ...+55 °C, IP 20
Permitted use	In switching cabinet with IP54 or better protection
Housing (W x H x D)	Plastic shroud over aluminium frame, 25 x 120 x 90 mm
Permits	CE, cULus, TÜV Rheinland

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