SCU-DR

Safety control unit SIL3|PLe

DESCRIPTION

Compact-type Safe PLC suitable up to PL e (EN ISO 13849-1) or SIL3 (IEC 61508). The programming and parameterization is possible by serial interface.nes environment.

FEATURES

- Extendable up to:
  - 38 safe digital inputs
  - 2 safe digital inputs
  - 20 safe digital I/Os
  - 12 safe relay outputs
  - 6 messaging outputs
- Processing of logic up to PL e (EN ISO 13849-1) or SIL3 (IEC 61508)
- Freely programmable compact PLC for up to 800 AWL commands
- Logic chart orientated programming
- Pulse output lines for cross-short-cut monitoring of digital input signals
- Safety function: External contact monitoring of connected switching devices
- Monitored relay outputs for safety-relevant functions
- External contact monitoring of connected switching devices (EMU)
- Management of characteristic values of extension modules in main module

CHARACTERISTICS

- Safe digital inputs: 14 (inclusive 10 OSSD compatible)
- Safe analog inputs: 2 (4 standard)
- Safe relay outputs: 3 (6 standard)
- Standard outputs: 2
- Pulse outputs (clock): 2 (for cross short circuit detection)
- Supply: 24 VDC
- Operation temperature: 50 °C
- Mounting: Top hat rail
- Option: PROFISAFE, FSoE, interface modules
- Protection: IP20
- Control: Keys for Acknowledge, Start, Reset on front

Version | 08.2023

APPLICATIONS

With the integrated functions for digital signal processing like on sensors, control switches or cut-off channels typical safety task can be solved very comfortable. Safe motion monitoring on highest demands - no problem with SCU. Firmware based on monitoring functions with many field proofed extended functions take care for a simple and transparent realization of any such task.




TECHNICAL DATA (CONTINUED)

FEATURES (CONTINUED)

- Output contact multiplication or increase of power capability by external contactors in connection with the device-internal monitoring function possible
- Extensive diagnostic functionality integrated in FW
- Status monitoring by coded 7-segment-display and LED‘s
- Keys for Acknowledgement, Start and Reset on the front
- **Option:** - PROFISAFE or FSoE integrated (both options suitable up to PL e or SIL3)
  - Communication interface modules (EtherCat, Ethernet/IP, Profinet etc.)
- Safe cross communication for data interchange between several main modules
- Standard and safe fieldbus protocols for communication with a master PLC

GENERAL TECHNICAL DATA

Number of safe inputs: 14 (OSSD available)
Number of relay outputs: 6
Number of safe analog inputs: 2
Number of standard outputs: 2
Number of pulse outputs: 2 (clock output)
Kind of electrical connection: Plug-in terminal strips (terminal screw or spring terminal)
Number of extension modules: 2 and fieldbus module

SAFETY-RELATED CHARACTERISTICS

Performance Level:	PLe (according EN ISO 13849-1)
PFH/Architecture:	SCU-DR = 3,0 * 10E-9 /KAT 4
	one-channel each Rel 20 * 10E-9 max. 4
	two-channel each Rel 1,0 * 10E-9 max. 2
Safety Integrity Level:	SIL3 (according IEC 61508)
Proof-Test-Interval:	20 years = maximum action time

Version I 08.2023

TECHNICAL DATA (CONTINUED)

ELECTRICAL DATA

Voltage supply:	24 VDC	
	X11.1:	24 VDC / 2 A
Tolerance:	-10% / +15%	
Power consumption:	2,4 W	
Rated data:	Digital inputs:	24 VDC, 20 mA, Type 1 according EN 61131-2
	Digital outputs:	24 VDC, 2 A
	Relays:	24 VDC / 2 A (DC13)
		240 VAC / 2 A (AC15)
	Messaging outputs:	24 VDC, 250 mA
Clock outputs:	24 VDC, 250 mA	

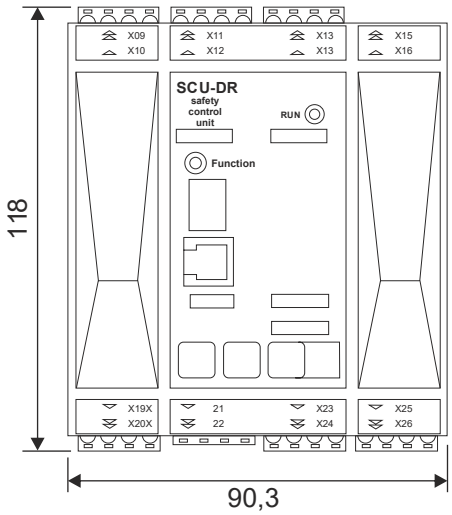
MECHANICAL DATA

Dimensions:	100 x 115 x 90 mm
Weight:	500 g
Mounting:	Snap-on on top hat rail
Number of T-Bus:	4
Terminal cross section:	maximum 2,5 mm²

ENVIRONMENTAL DATA

Temperature:	Operation:	0...50 °C
	Storage: -10...+70 °C	
Humidity:	max. 85% rH / no condensation	
Protection class:	IP20	
Climate class:	3K3 EN 60721-3	
EMC:	EN 61000-6-4, EN 61000-6-2, EN 61000-6-7, EN 61800-3	
	EN 62061, EN 61326-3	

DIMENSIONS (in mm)



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CONNECTION

X11

1	2	3	4
U24_ext	U24_ext	GND_ext	GND_ext
Voltage supply +24 VDC		Voltage supply 0 VDC	

X12

1	2	3	4
DI 13	DI 14	P1	P2
Safe digital inputs 13 and 14		Clock / pulse outputs 1 and 2	

X22

1	2	3	4
K1.1	K1.2	K2.1	K2.2
Relay output 1		Relay output 2	

X13

1	2	3	4
NC	NC	DO0.1	DO0.2
No function		Standard outputs 1 and 2	

X14

1	2	3	4
DI 01	DI 02	DI 03	DI04
Safe digital inputs 1 and 2		Safe digital inputs 3 and 4	

X23

1	2	3	4
DI 05	DI06	DI07	DI 08
Safe digital inputs 5 and 6		Safe digital inputs 7 and 8	

X24

1	2	3	4
DI 09	DI 10	DI11	DI12
Safe digital inputs 9 and 10		Safe digital inputs 11 and 12	

X25

1	2	3	4
AI1.1 +	AI1.1 -	AI1.2 +	AI1.2 -
Safe analog input 1			

Version | 08.2023

CONNECTION (CONTINUED)

X26

1	2	3	4
AI2.1 +	AI2.1 -	AI2.2 +	AI2.2 -
Safe analog input 2			

X09

1	2	3	4
K3.11	K3.12	K4.11	K4.12
Feedback contact relay 3		Feedback contact relay 4	

X10

1	2	3	4
K5.11	K5.12	K6.11	K6.12
Feedback contact relay 5		Feedback contact relay 6	

X19

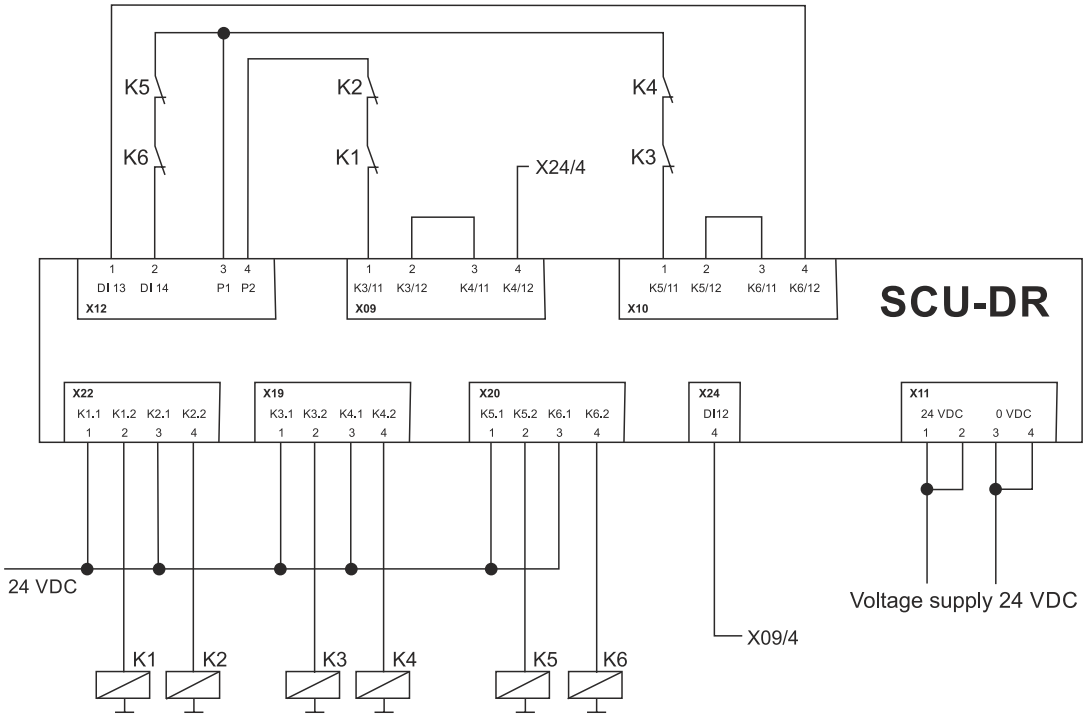
1	2	3	4
K3.1	K3.2	K4.1	K4.2
Relay output 3		Relay output 4	

X20

1	2	3	4
K5.1	K5.2	K6.1	K6.2
Relay output 5		Relay output 6	

Version | 08.2023

EXAMPLE



ORDER CODE

C	R	X	X	X	X	X	X	-	X	X	X

Version:	SCU-DR (standard)	10
	SCU-DR/F (FSoE: ETHERCAT integrated)	20
	SCU-DR/P (PROFISAFE: PROFInet integrated)	30
Electr. Connection:	Plug-in terminals	0
Configuration:	Factory setting[1)]	0
	Customized (please specify)[2)]	1
Other:	Special model	0

1) No setting, no changes

2) All settings possible according to Technical Data can be selected. For values not selected, factory settings will be chosen.

Accessories:

See Extension Components

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