

## ● Characteristics

1710 - PROGRAMMABLE LOGIC CONTROLLER



- 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

## ● Technical Data

### Description

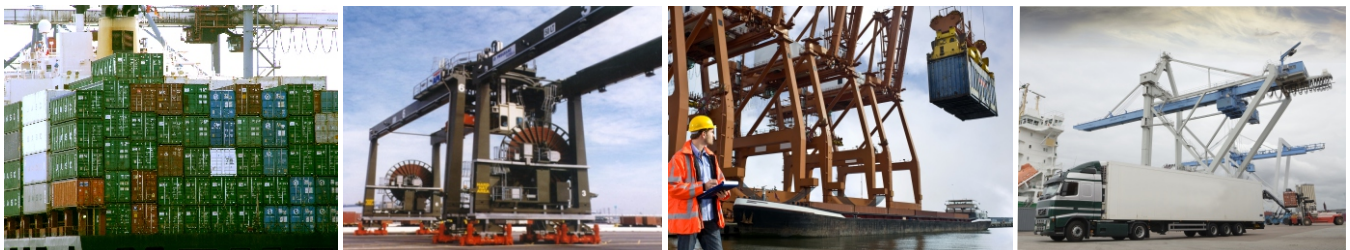
Compact-type Safe PLC suitable up to PL e (EN13849) or SIL3 (EN61508). The programming and parameterization is possible by serial interface.

### Features

- Extendable up to:
  - 38 safe digital inputs
  - 4 safe digital outputs
  - 20 safe digital I/Os
  - 11 safe relay outputs
  - 6 messaging outputs
- Processing of logic up to PL e (EN13849) or SIL3 (EN61508)
- 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

## ● 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 13849)
PFH/Architecture:	SCU-MD = $3,0 * 10E-9$ /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 EN 61508)
Proof-Test-Interval:	20 years = maximum action time

## ● 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	

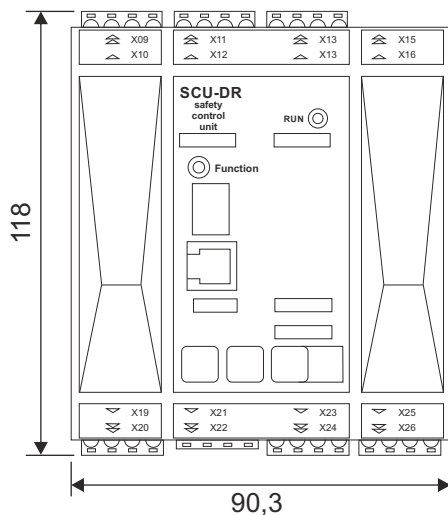
### Mechanical Data

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 mm <sup>2</sup>

### Environmental Data

Temperature:	Operation:	0...50 °C
	Storage:	-10...+70 °C
Ingress protection:	IP20	
Climatic 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)



**● Connection**

<p><b>X11</b></p> <table border="1"> <thead> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>U24_ext</td> <td>U24_ext</td> <td>GND_ext</td> <td>GND_ext</td> </tr> <tr> <td colspan="2">Voltage supply +24 VDC</td> <td colspan="2">Voltage supply 0 VDC</td> </tr> </tbody> </table>	1	2	3	4	U24_ext	U24_ext	GND_ext	GND_ext	Voltage supply +24 VDC		Voltage supply 0 VDC		<p><b>X12</b></p> <table border="1"> <thead> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>DI 13</td> <td>DI 14</td> <td>P1</td> <td>P2</td> </tr> <tr> <td colspan="2">Safe digital inputs 13 and 14</td> <td colspan="2">Clock / pulse outputs 1 and 2</td> </tr> </tbody> </table>	1	2	3	4	DI 13	DI 14	P1	P2	Safe digital inputs 13 and 14		Clock / pulse outputs 1 and 2	
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● **Connection (Continued)**

<b>X26</b>				<b>X09</b>			
1	2	3	4	1	2	3	4
AI2.1 +	AI2.1 -	AI2.2 +	AI2.2 -	K3.11	K3.12	K4.11	K4.12
Safe analog input 2				Feedback contact relay 3		Feedback contact relay 4	

<b>X10</b>				<b>X19</b>			
1	2	3	4	1	2	3	4
K5.11	K5.12	K6.11	K6.12	K3.1	K3.2	K4.1	K4.2
Feedback contact relay 5		Feedback contact relay 6		Relay output 3		Relay output 4	

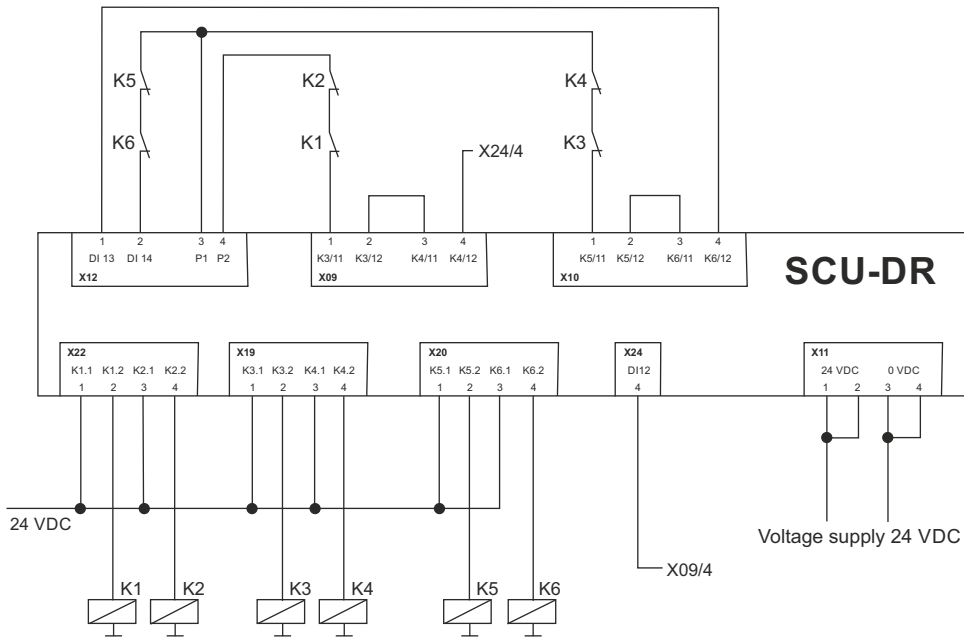
<b>X20</b>							
1	2	3	4				
K5.1	K5.2	K6.1	K6.2				
Relay output 5		Relay output 6					

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## ● **Extension Components**

SCU-ED:	I/O Extension Module Programmable Safe PLC suitable up to PL e (EN13849) or SIL3 (EN61508) 12x Digital IN, 10x I/O 250 mA, 2x Message Out, 2x Clock Out
SCU-PS:	PLC programming software
SCU-PU:	Programming unit
SCU-KC:	Communication Module CAN
SCU-KP:	Communication Module Profibus-DP
SCU-KN:	Communication Module PROFINet
SCU-KO:	Communication Module CANopen
SCU-KE:	Communication Module ETHERCAT
SCU-TB1:	T-Bus, standard (live) version, grey
SCU-TB2:	T-Bus, interruptor version, grey

● Example



● **Order Code**

C	R	X	X	X	X	X	X	X	-	X	X	X
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<b>Version:</b>	SCU-DR (standard)	10
	SCU-DR/F (FSoE: ETHERCAT integrated)	20
	SCU-DR/P (PROFISAFE: PROFINet integrated)	30

<b>Electr. Connection:</b>	Plug-in terminals	0
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<b>Configuration:</b>	Factory setting <sup>1)</sup>	0
	Customized (please specify) <sup>2)</sup>	1

<b>Other:</b>	Special model	0
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- 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.

**Zubehör:**  
See Extension Components