



Safety

SLC284 Safety processor module

The SLC284 module – ideally integrated in the M200 controller – is presented as an independent, safe, and modern safety controller. The SLC284 safety digital input module is approved in accordance with the latest safety standard, IEC 61508. No additional cabling is needed for communication between the SLC284 and the safety I/O modules SDI208 and SDO204. The modules can be separated by several hundred meters and operated in a distributed manner via the bus expansion or via FASTBUS, or via CAN or bluecom.

Features

- 16 digital inputs / 8 digital outputs – can be used redundantly in pairs (PL e/SIL 3/Cat 4)
- Each output with emergency delay is configurable in the event of communication lost
- Safety controller with 2 independent 32-bit micro-controllers
- Fastest program cycle 5 ms
- Decentralized I/O via FASTBUS or bus expansion with SDI208 or SDO204
- All safety I/O states can be used by the safety modules of the M200 controller
- Safety programming via SolutionCenter
- Galvanic isolation between the groups
- Galvanic isolation from the system
- Operating mode selector switch
- Operating status indication SAFE, PROG, TEST, BIOS, ERR
- Status indication for each channel via LED
- Programming via M200 controller or integrated serial interface

Part type designation	Part number
SLC284	00014273-00
SLC284 CC	00017465-00

SLC284

Processor	
CPU	2x LPC2468, 72 MHz, 32 bit
Controller	
Programming	Via controller (I/O bus) or serial interface (COM)
Number of independent safety programs per SLC	1
Program cycle	Minimum 5 ms
I/O expansion	Via SDI208, SDO204 or SCT202 modules
Digital inputs	
Number	16 digital inputs – can be used redundantly in pairs (PL e / SIL 3 / Cat 4)
Input voltage range (H)	15 V DC to 34 V DC
Input voltage range (L)	-34 V DC to +5 V DC
Input delay (typically) HW	300 µs
Input delay (typically) SW	1 ms in the case of disabled test pulsing
Input type acc. to IEC 61131-2	Type 1
Minimum input current	3.5 mA at 24 V DC
Status indication (LED)	Green
Error monitoring	Internal function monitoring External test pulsing optional
Digital outputs	
Number	8 digital outputs – can be used redundantly in pairs (PL e / SIL3 / Cat 4)
Output voltage range	18 V DC to 34 V DC
Output current per channel	0.5 A nominal
Total current per group (max.)	2 A
0 to 1 delay	Max. 35 µs at full load
1 to 0 delay	Max. 155 µs at full load
Output groups	2, electronic fuse
Status indication (LED)	Green
Switching frequency (max., resistive load)	500 Hz
Error monitoring	Short-circuit, overload, undervoltage, overvoltage of the power supply
Time-delayed emergency shut-off	Each output individual from 0 s to 1800 s configurable (resolution 100 ms); emergency shutdown is enabled in the event of communication lost e.g. power failure
Internal power supply	
Galvanic isolation from the system	500 V
Galvanic isolation between groups	500 V
Internal power supply	Backplanes BS2xx
Internal current consumption	5 V / 550 mA via backplane
External power supply	
Reverse polarity protection	Yes
Input voltage	24 V DC (18 V to 34 V)
Current consumption	Typ. 95 mA at +24 V DC + Σ current consumption of actuators and sensors
Connection technology	
I/O connection	RM 3.5 connector with flange
Power supply	RM 5.08 connector with flange
Connection technology	Screw or spring terminal, connector can be coded and labeled

Standards and approvals	
Machine safety	EN 61508:2010: Functional safety of E/E/PE safety-related systems
Approved for	EN ISO 13849-1:2015: Safety of machinery EN 62061:2005/A2:2015: Functional safety machine-related E/E/PE systems EN 61511-1:2017 & IEC 61511-1:2016: Functional safety equipment and process industry
Product standard	EN 61131-2:2007 & EN 61131-6:2012 UL 61010-1 & UL 61010-2-201

Additional features	
Status indication via LEDs	
Operating mode adjustable via hex switch	

Approvals/Certificates	Standard	ColdClimate (❄️)
General	CE, UKCA, cULus	
Marine	ABS, BV, DNV, LR	ABS, BV, DNV, KR, LR, NK, RINA

Environmental conditions	Standard	ColdClimate (❄️)
Operating temperature	-30 °C to +60 °C fanless	
Relative humidity, operation	5 % to 95 % noncondensing	5 % to 95 % with condensation
Storage temperature	-40 °C to +85 °C	
Relative humidity, storage	5 % to 95 % noncondensing	5 % to 95 % with condensation
Maximum altitude ¹⁾	4500 m above sea level	
Pollution degree (IEC 60664-1)	2 (noncondensing)	2
Protection class	3	

¹⁾ For operation at an altitude of 2000 m above sea level, a derating of -0.5 Kelvin per 100 m to a maximum altitude of 4500 m above sea level must be taken into account

Order data

Part type designation	Part number	Description
SLC284	00014273-00	Safety processor module; integrated digital inputs/outputs; SIL3/PL e: 8x DI 24 V; 4x DO 24 V / 0.5 A; (SIL2/PL d: 16x DI, 8x DO); 6 ms cycle; RS232; stand-alone operation or with CPU module
SLC284 CC	00017465-00	Like SLC284; ColdClimate (❄️)

Accessories

Part type designation	Part number	Description
KZ-SLC284 B+C	00014771-50	Terminal set Phoenix cage clamp (1x KZ 51/05; 6x KZ 35/08) with labeling strips + keying elements