



SDO204 Safety Digital Output Module

The SDO204 module adds an additional 4 output channels to the SLC284 safety processor module and a homogeneous overall system is created through the independent and safe inclusion in the M1 controller. Through the free choice of the slot – either directly beside the safety controller, through bus expansion, or several hundred meters away through the FASTBUS – the safety system can be optimally adapted to the distributed requirements and existing infrastructure of the system.

The SDO204 safety digital output module is approved under the latest safety standard IEC61508. The SDO204 can be easily integrated in the overall safety application, comparable with a standard I/O module – as the proven »SolutionCenter« development platform offers the easiest configuration, most flexible type of programming, and a safe simulation via easily combinable PLC-Open function modules. All variables and states of the SDO204 safety digital output module are accessible in other machine program languages (PLC, C/C++), however the visualization is also available and makes bothersome parallel wiring unnecessary.

- 8 digital outputs – can be used redundantly in pairs (PL e/SIL3/Cat 4)
- Each output with emergency delay is configurable in the event of communication lost
- Safe monitoring of the inputs with redundant 32-bit microcontrollers
- Several SDO208 units per controller possible
- All safety I/O states can be used by M1 controller
- Safety programming via SolutionCenter
- Galvanic isolation between the groups
- Galvanic isolation from the system
- Operating state display »SAFE«
- Status display for each channel via LED

Item	Item-No.
SDO204	00014545-00
SDO204 CC	00017462-00

SDO204	
Digital Outputs	
Quantity	8 digital outputs – can be used redundantly in pairs (PL e/SIL3/Cat 4)
Output voltage range	18 to 34 V DC
Output current per channel	2 A nominal
Total current per group (max.)	8 A ¹⁾
Delay 0 to 1	Max. 35 µs at full load
Delay 1 to 0	Max. 155 µs at full load
Output groups	2, electronic fuse
Status display (LED)	Green
Switching frequency (max., ohmic load)	500 Hz
Error monitoring	Short circuit, overload, inadequate or excess voltage of the power supply
Time-delayed emergency shut-off	Each output individual from 0 to 1800 s configurable (resolution 100 ms); Emergency shut-off is activated in the event of communication lost e.g. failure in the supply voltage
Internal Power Supply	
Galvanic isolation from the system	500 V
Galvanic isolation between groups	500 V
Internal power supply	Backplanes BS2xx
Current consumption internal	5 V / 250 mA via backplane
External Power Supply	
Reverse polarity protection	Yes
Input voltage	24 V DC (18 to 34 V)
Voltage range	18 to 34 V DC
Current consumption	Normally 70 mA at +24 VDC + Σ current consumption of the encoders
Connection Technology	
I/O connection	Connector RM3.5 with flange
Power supply connection	Connector RM5.08 with flange
Connection technology	Screw or spring terminal Writable and codable plug
Standards	
Machine safety	IEC 61508:2010: Functional safety – Design of complex E/E/PE safety components
Approved for	ISO 13849: Safety of Machinery IEC 62061: Functional safety machine-related E/E/PE systems IEC 61511: Functional safety equipment and process industry
Product standard	IEC 61131-2 UL 508

1) Derating from 40 °C ambient temperature

SDO204**Additional Features**

Status display via LEDs

Approvals / Certificates		Standard	ColdClimate (✳)
General		CE, cULus, CCC	
Marine		-	DNV GL, LR, ABS, BV, NK, KR, RINA
Ambient Conditions		Standard	ColdClimate (✳)
Operating temperature		-30 to +60 °C fanless	-30 to +60 °C fanless
Relative humidity operation		5 to 95 % without condensation	5 to 95 % with condensation
Storage temperature		-40 to +85 °C	-40 to +85 °C
Relative humidity storage		5 to 95 % without condensation	5 to 95 % with condensation
Maximum altitude ¹⁾		4,500 m above sea level	
Pollution degree		2 (without condensation; according to IEC 60664-1)	2 (according to IEC 60664-1)
Protection class		3	

1) For operation at an altitude of 2,000 m above sea level, a derating of -0.5 Kelvin per 100 m to a maximum altitude of 4,500 m above sea level must be taken into account.

Order Codes

Item	Item No.	Description
SDO204	00014545-00	Safety digital output module; SIL3/PLe: 4x DO 24V / 2A; (SIL2/PLd: 8x DO)
SDO204 CC	00017462-00	Like SDO204; ColdClimate (✳)
Accessories		
KZ-SDO204 B+C	00014772-50	Terminal set Phoenix cage clamp (1x KZ 51/05; 2x KZ 35/08) with labeling strips and coding elements

