

Data sheet SM 022 - Digital output (022-1SD00)

Technical data

Type SM 022 - Digital output Module ID 0C81 1E00 General information . Note - Features 4x SDO DC 24 V 0.5 Å Safety / PROFIsafe Current consumption/power loss . Current consumption/power loss 75 mA Power loss 1 W Technical data digital outputs 4 Rable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Current consumption from load voltage L+ (without load) 15 FmA Total current per group, horizontal configuration, 60°C - Total current per group, horizontal configuration, 60°C - Total current per group, horizontal configuration - Output delay of *1* to *0 175 µs Minimum load current - Lamp load 5 W Parallel switching of outputs for redundant control of a load not possible Parallel switching of outputs for increased power not possible Parallel switching of outputs for increased power not possible Parallel switching frequency with inductive load max. 50 Hz	Order no.	022-1SD00
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Output current at signal "1", rated value0.5 ASignal logic outputSourcing outputOutput delay of "0" to "1"100 μsOutput delay of "1" to "0"175 μsMinimum load current-Lamp load5 WParallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with resistive loadmax. 50 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltageL+ (-45 V)Short-circuit protection of outputyes, electronic	Total current per group, horizontal configuration, 60°C	
Signal logic outputSourcing outputOutput delay of "0" to "1"100 μsOutput delay of "1" to "0"175 μsMinimum load current-Lamp load5 WParallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with resistive loadmax. 50 HzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadL+ (-45 V)Internal limitation of inductive shut-off voltageL+ (-45 V)Short-circuit protection of outputyes, electronic	Total current per group, vertical configuration	-
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Actuation of digital inputyesSwitching frequency with resistive loadmax. 50 HzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltageL+ (-45 V)Short-circuit protection of outputyes, electronic	Parallel switching of outputs for redundant control of a load	not possible
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Switching frequency with inductive load max. 0.5 Hz Switching frequency on lamp load max. 10 Hz Internal limitation of inductive shut-off voltage L+ (-45 V) Short-circuit protection of output yes, electronic	Actuation of digital input	yes
Switching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltageL+ (-45 V)Short-circuit protection of outputyes, electronic	Switching frequency with resistive load	max. 50 Hz
Internal limitation of inductive shut-off voltage L+ (-45 V) Short-circuit protection of output yes, electronic	Switching frequency with inductive load	max. 0.5 Hz
Short-circuit protection of output yes, electronic	Switching frequency on lamp load	max. 10 Hz
	Internal limitation of inductive shut-off voltage	L+ (-45 V)
Trigger level 1.7 A	Short-circuit protection of output	yes, electronic
	Trigger level	1.7 A
Number of operating cycle of relay outputs -	Number of operating cycle of relay outputs	-
Switching capacity of contacts -	Switching capacity of contacts	-
Output data size 4 Bit	Output data size	4 Bit
Status information, alarms, diagnostics	Status information, alarms, diagnostics	
Status display green LED per channel	Status display	green LED per channel
Interrupts yes, parameterizable	Interrupts	yes, parameterizable
Process alarm no	Process alarm	no
Diagnostic interrupt yes, parameterizable	Diagnostic interrupt	yes, parameterizable

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Diagnostic functions	yes, parameterizable
Diagnostics information read-out	possible
Supply voltage display	green LED
Group error display	red SF LED
Channel error display	red ERR-LED and yellow ER2-LED
Isolation	
Between channels	
Between channels of groups to	
Between channels and backplane bus	yes
Insulation tested with	DC 500 V
PWM data	
PWM channels	
PWM time basis	
Period length	
Minimum pulse width	
Type of output	-
Safety	
Safety protocol	PROFIsafe V2
Safety requirements	SIL CL 3, PL e, Kat 4
Secure user address	1 - 4095
Watchdog	parameterizable 10ms - 1s
Two channels	Each 2 of 4 outputs switchable
Test pulse length	parameterizable 500µs - 10ms
Circuit monitoring	yes
Datasizes	
Input bytes	5
Output bytes	5
Parameter bytes	44
Diagnostic bytes	20
Housing	
Material	PC / PPE GF10
Mounting	Profile rail 35 mm
Mechanical data	
Dimensions (WxHxD)	12.9 mm x 109 mm x 76.5 mm
Net weight	64 g
Weight including accessories	69 g
Gross weight	85 g
Environmental conditions	
Operating temperature	0 °C to 60 °C
Storage temperature	-25 °C to 70 °C
Certifications	
UL certification	yes
KC certification	yes