

Data sheet

SM 322 (322-1BH01)

Technical data

Type SM 322 General Information Note - Features 16x DO. in groups of 8 1 A per group up to 4 A) A per group to group	Order no.	322-1BH01
Note	Туре	SM 322
Features 16x DO, in groups of 8 1 1 A per group up to 4 A) SPEED-Bus - 72 pole front connector Current consumption/power loss Current consumption from backplane bus 50 mA Power loss 4 W Technical data digital outputs Number of outputs 16 6 Cable length, shielded 1000 m Cable length, shielded 1000 m Cable length, shielded 1000 m Cable length, unshielded 1000 m Cable length, un	General information	
SPEED-Bus - Current consumption/power loss Current consumption from backplane bus 50 mA Power loss 4W Technical data digital outputs Number of outputs 160 m	Note	-
Current consumption/power loss Current consumption from backplane bus 50 mA Power loss 4 W Technical data digital outputs Number of outputs 16 Cable length, unshielded 600 m Cable length, unshielded 600 m Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) 85 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration, 60°C 4 A Output durrent per group, vertical configuration 4 A Output delay of "0" to "1" 50 μs Signal logic output Sourcing output Output delay of "0" to "1" 150 μs Output delay of "1" to "0" 100 μs Minimum load current - Lamp load 5 W Parallel switching of outputs for redundant control of a load possible Actuation of digital input yes Switching frequency with nesstitve load max. 1000 Hz Switching frequency with inductive load max. 10 Hz Switching frequency	Features	1 A (per group up to 4 A)
Current consumption from backplane bus 50 mA Power loss 4 W Technical data digital outputs Number of outputs 16 Cable length, unshielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) 85 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration, 60°C 4 A Signal logic output 50 μs Cutput current at signal "1", rated value 1 A Signal logic output 50 μs Output delay of "0" to "1" 150 μs Minimum load current - Lamp load 5 W Parallel switching of outputs for redundant control of a load possible (only outputs group) Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with resistive load max. 1000 Hz Switching frequency with resistive load max. 10 Hz Internal limitation of inductive shut-off voltage L+ (45 V)	SPEED-Bus	-
Power loss 4 W Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) 85 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, vertical configuration, 60°C 4 A Total current per group, vertical configuration 4 A Output current at signal '1', rated value 1 A Signal logic output Sourcing output Output delay of '0' to '1' 150 μs Output delay of '1' to '0' 100 μs Minimum load current - Lamp load 5 W Parallel switching of outputs for redundant control of a load possible (only outputs group) Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with inductive load max. 1000 Hz Switching frequency with inductive load max. 100 Hz Internal limitation of inductive shut-off voltage	Current consumption/power loss	
Number of outputs Number of outputs 16 Cable length, shielded 1000 m Rated load voltage Rated load voltage Current consumption from load voltage L+ (without load) 7 total current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration, 60°C 4 A Total current per group, vertical configuration, 60°C 4 A Total current per group, vertical configuration 4 A Output current at signal *1*, rated value 1 A Signal logic output Output delay of *0° to *1* 150 µs Output delay of *0° to *1* 150 µs Minimum load current 2 W Parallel switching of outputs for redundant control of a load possible (only outputs group) Parallel switching of outputs for increased power Actuation of digital input Switching frequency with resistive load max. 1000 Hz Switching frequency with inductive load internal limitation of inductive shut-off voltage L+ (-45 V) Short-circuit protection of output Trigger level Number of operating cycle of relay outputs Switching capacity of contacts Cuput data size Status display Green LED per channel Interrupts no Process alarm 160 DO a 100 m 1	Current consumption from backplane bus	50 mA
Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) 85 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration 4 A Output current at signal "1", rated value 1 A Signal logic output Sourcing output Output delay of "0" to "1" 150 μs Output delay of "1" to "0" 100 μs Minimum load current - Lamp load 5 W Parallel switching of outputs for redundant control of a load possible (only outputs group) Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with resistive load max. 1000 Hz 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	Power loss	4 W
Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) 85 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration, 60°C 4 A Output current at signal '11, rated value 1 A Signal logic output Sourcing output Output delay of "0" to "1" 150 μs Output delay of "1" to "0" 100 μs Minimum load current - Lamp load 5 W Parallel switching of outputs for redundant control of a load possible (only outputs group) Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with resistive load max. 1000 Hz 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 Trigger level 1.5 A <t< td=""><td>Technical data digital outputs</td><td></td></t<>	Technical data digital outputs	
Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) 85 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, vertical configuration, 60°C 4 A Cutput current per group, vertical configuration 4 A Cutput current at signal "1", rated value 1 A Signal logic output Sourcing output Cutput delay of "0" to "1" 150 µs Cutput delay of "1" to "0" 100 µs Minimum load current 10" 100 µs Minimum load current 10" 100 µs Parallel switching of outputs for redundant control of a load possible (only outputs group) Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with resistive load max. 1000 Hz Switching frequency with inductive load max. 100 Hz Switching frequency on lamp load max. 10 Hz Internal limitation of inductive shut-off voltage L+ (-45 V) Short-circuit protection of outputs Switching capacity of contacts - Cutput data size 2 Byte Status display green LED per channel Interrupts	Number of outputs	16
Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) 85 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, vertical configuration, 60°C 4 A Total current per group, vertical configuration 4 A Output current at signal "1", rated value 1 A Signal logic output Sourcing output Output delay of "0" to "1" 150 µs Minimum load current 0" Lamp load 5 W Parallel switching of outputs for redundant control of a load possible (only outputs group) Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with resistive load max. 100 Hz Switching frequency with inductive load max. 10 Hz Switching frequency on lamp load max. 10 Hz Internal limitation of inductive shut-off voltage L+ (-45 V) Short-circuit protection of output Switching capacity of contacts - Switching capacity of contacts - Switching capacity of contacts - Cutput data size 2 Byte Status display green LED per channel Interrupts no current per group, horizontal configuration, 40°C A A A A A A A A A A A A A A A A A A A	Cable length, shielded	1000 m
Current consumption from load voltage L+ (without load) 85 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration, 60°C 4 A Total current per group, vertical configuration 4 A Output current at signal "1", rated value 1 A Signal logic output Sourcing output 100 µs Minimum load current 100 µs Minimum load current 100 µs Minimum load current 100 µs Parallel switching of outputs for redundant control of a load possible (only outputs group) Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with resistive load max. 100 Hz Switching frequency with inductive load max. 100 Hz Switching frequency with inductive load max. 10 Hz Internal limitation of inductive shut-off voltage L+ (-45 V) Short-circuit protection of output yes, electronic Trigger level 1.5 A Number of operating cycle of relay outputs Switching capacity of contacts - 2 Syttets information, alarms, diagnostics Status display green LED per channel Interrupts no control on to	Cable length, unshielded	600 m
Total current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration, 60°C 4 A Total current per group, vertical configuration 4 A Output current at signal "1", rated value 1 A Signal logic output Sourcing output Output delay of "0" to "1" 150 µs Output delay of "1" to "0" 100 µs Minimum load current	Rated load voltage	DC 24 V
Total current per group, horizontal configuration, 60°C 4 A Total current per group, vertical configuration 4 A Output current at signal "1", rated value 1 A Signal logic output Sourcing output Output delay of "0" to "1" 150 μs Output delay of "1" to "0" 100 μs Minimum load current - Lamp load 5 W Parallel switching of outputs for redundant control of a load possible (only outputs group) Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with resistive load max. 1000 Hz 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 Trigger level 1.5 A Number of operating cycle of relay outputs Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no	Current consumption from load voltage L+ (without load)	85 mA
Total current per group, vertical configuration Output current at signal "1", rated value 1 A Signal logic output Sourcing output Output delay of "0" to "1" 150 µs Output delay of "1" to "0" Minimum load current Lamp load Farallel switching of outputs for redundant control of a load Parallel switching of outputs for increased power Actuation of digital input Switching frequency with resistive load Switching frequency with inductive load Switching frequency with inductive load Switching frequency on lamp load Internal limitation of inductive shut-off voltage L+ (-45 V) Short-circuit protection of output Yes, electronic Trigger level 1.5 A Number of operating cycle of relay outputs Switching capacity of contacts Output data size Status display Green LED per channel Interrupts no Process alarm 100 µs A A A A A A A A A A A A A	Total current per group, horizontal configuration, 40°C	4 A
Output current at signal "1", rated value 1A Signal logic output Sourcing output 150 µs Output delay of "0" to "1" 100 µs Minimum load current 5W Parallel switching of outputs for redundant control of a load possible (only outputs group) Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with resistive load max. 1000 Hz 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 Trigger level 1.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no	Total current per group, horizontal configuration, 60°C	4 A
Signal logic output Output delay of "0" to "1" Output delay of "1" to "0" 100 µs Minimum load current Lamp load Parallel switching of outputs for redundant control of a load Parallel switching of outputs for increased power Actuation of digital input Switching frequency with resistive load Switching frequency with inductive load Minimum load Switching frequency on lamp 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 Trigger level 1.5 A Number of operating cycle of relay outputs Switching capacity of contacts Cutput data size Status information, alarms, diagnostics Status display Green LED per channel Interrupts Process alarm 100 µs	Total current per group, vertical configuration	4 A
Output delay of "0" to "1" to "0" 100 μs Minimum load current - Lamp load 5 W Parallel switching of outputs for redundant control of a load possible (only outputs group) Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with resistive load max. 1000 Hz 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 Trigger level 1.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no	Output current at signal "1", rated value	1 A
Output delay of "1" to "0" Minimum load current	Signal logic output	Sourcing output
Minimum load current Lamp load 5 W Parallel switching of outputs for redundant control of a load possible (only outputs group) Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with resistive load max. 1000 Hz 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 Trigger level 1.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no	Output delay of "0" to "1"	150 µs
Lamp load5 WParallel switching of outputs for redundant control of a loadpossible (only outputs group)Parallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with resistive loadmax. 1000 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, electronicTrigger level1.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus information, alarms, diagnosticsStatus displaygreen LED per channelInterruptsnoProcess alarmno	Output delay of "1" to "0"	100 µs
Parallel switching of outputs for redundant control of a load possible (only outputs group) Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with resistive load max. 1000 Hz 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 Trigger level 1.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts not possible (only outputs group) Possible Not possible (only outputs group) Possible Not possible Nax. 1000 Hz Possible Possible Nax. 1000 Hz Nax. 1000 Hz Possible Nax. 1000 Hz Nax. 1000 Hz Possible Nax. 1000 Hz	Minimum load current	-
Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with resistive load max. 1000 Hz 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 Trigger level 1.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no	Lamp load	5 W
Actuation of digital input Switching frequency with resistive load max. 1000 Hz 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 Trigger level 1.5 A Number of operating cycle of relay outputs - Switching capacity of contacts Output data size 2 Byte Status information, alarms, diagnostics Status display Interrupts no Process alarm Actuation of digital input yes, 100 Hz max. 1000 Hz max. 10 Hz L+ (-45 V) Short-circuit protection of output yes, electronic - 2 Byte 1.5 A Suitching capacity of contacts - 2 Byte Status information, alarms, diagnostics green LED per channel Interrupts no no	Parallel switching of outputs for redundant control of a load	possible (only outputs group)
Switching frequency with resistive load max. 1000 Hz 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 Trigger level 1.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no	Parallel switching of outputs for increased power	not possible
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 Trigger level 1.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no	Actuation of digital input	yes
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 Trigger level 1.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no	Switching frequency with resistive load	max. 1000 Hz
Internal limitation of inductive shut-off voltage L+ (-45 V) Short-circuit protection of output yes, electronic Trigger level 1.5 A Number of operating cycle of relay outputs Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no	Switching frequency with inductive load	max. 0.5 Hz
Short-circuit protection of output Trigger level 1.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no	Switching frequency on lamp load	max. 10 Hz
Trigger level 1.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no	Internal limitation of inductive shut-off voltage	L+ (-45 V)
Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no	Short-circuit protection of output	yes, electronic
Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no	Trigger level	1.5 A
Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no	Number of operating cycle of relay outputs	-
Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no	Switching capacity of contacts	-
Status display green LED per channel Interrupts no Process alarm no	Output data size	2 Byte
Interrupts no	Status information, alarms, diagnostics	
Process alarm no	Status display	green LED per channel
	Interrupts	no
Diagnostic interrupt no	Process alarm	no
	Diagnostic interrupt	no



Diagnostic functions	no
Diagnostics information read-out	none
Supply voltage display	green LED per group
Group error display	red SF LED
Channel error display	none
Isolation	
Between channels	yes
Between channels of groups to	8
Between channels and backplane bus	yes
Insulation tested with	DC 500 V
Datasizes	
Input bytes	0
Output bytes	2
Parameter bytes	0
Diagnostic bytes	0
Housing	
Material	PPE
Mounting	Rail System 300
Mechanical data	
Dimensions (WxHxD)	40 mm x 125 mm x 120 mm
Net weight	185 g
Weight including accessories	195 g
Gross weight	225 g
Environmental conditions	
Operating temperature	0 °C to 60 °C
Storage temperature	-25 °C to 70 °C
Certifications	
UL certification	yes
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