

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) For 20 pole front connector SPEED-Bus - 20 pole front connector SPEED-Bus 50 mA Power loss 4 W Technical data digital outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 24 V Current consumption from load voltage DC 24 V Current per group, horizontal configuration, 60°C 4 A Total current per group, horizontal configuration, 60°C 4 A Total current at signal 1"1, rated value 1 A Signal logic output Sourcing output Cutput delay of 1"1 to 1"1 150 µs Cutput delay of 1"1 to 1"1 150 µs Minimum load current - Lamp load 5 W Parallel switching of outputs for redundant centrol of a load possible (only outputs group) Parallel switching of outputs for increased power not possible Switching frequency with insistive load max. 100 Hz Switching capacity of contacts - Switching capacity of contacts - Switching requency with insistic possible (or leave outputs - Switching requency with insistic possible (or leave outputs - Switching capacity of contacts - Switching capacity of cont	Order no.	322-1BH01
Note - Features	Туре	SM 322
Features 16x DO, in groups of 8 1 1 A per group up to 4 A) For 2b pole front connector For 2b pole front front connector For 2b pole front connector For 2b pole front con	General information	
For 20 pole front connector SPEED-Bus - Current consumption/power loss Current consumption from backplane bus 50 mA Power loss 4W Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, shielded 600 m Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) 85 mA Total current per group, horizontal configuration, 60°C 4 A Total current per group, horizontal configuration, 60°C 4 A Total current per group, vertical configuration 40 m 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 "0" to "1" 150 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 resistive load max. 1000 Hz Switching frequency with inductive load max. 1000 Hz Switching frequency with inductive load max. 100 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 Status display green LED per channel Interrupts no	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, 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 Total current per group, vertical configuration, 60°C 4 A Total current per group, vertical configuration 60°C 4 A Cutput current at signal "1", rated value 1 A Signal logic output 5 sourcing output Cutput delay of "0" to "1" 150 µs Cutput 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. 100 Hz Switching frequency with resistive load max. 10 Hz Internal limitation of inductive shut-off voltage L+ (-45 V) Short-circuit protection of output Trigger level 1.5 A Number of operating cycle of relay outputs Switching capacity of contacts Cutput data size 2 Byte Status display green LED per channel Interrupts no	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, 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 Total current per group, vertical configuration 60°C 4 A Output current as 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 Parallel switching of outputs for redundant control of a load passible (only outputs group) Parallel switching of outputs for increased power not possible Actuation of digital input yes Switching frequency with inductive load max. 10 Hz Internal limitation of inductive shut-off voltage L+ (45 V) Short-circuit protection of output Process alarm no	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 at signal "1", rated value 1 A Signal logic output Sourcing 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. 100 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 Protection of output yes, electronic Trigger lavel 1.5 A Number of operating cycle of relay outputs Internal limitation, alarms, diagnostics Status display green LED per channel Interrupts no	Current consumption/power loss	
Technical data digital outputs	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 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 "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 inductive 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 outputs Switching capacity of contacts Output data size 2 Byte Status display green LED per channel Interrupts no	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 "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. 0.1 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 display <td>Technical data digital outputs</td> <td></td>	Technical data digital outputs	
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 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 outputs Switching capacity of contacts - Switching capacity of contacts - Output data size 2 Byte Status display green LED per channel Interrupts no	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 - 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 Internal limitation of inductive shut-off voltage L+ (-45 V) Short-circuit protection of outputs - Switching capacity of contacts - Output data size 2 Byte Status display green LED per channel Interrupts no	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 *11*, rated value 1 A Signal logic output Sourcing output Output delay of *0" to *11" 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 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 - Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no	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 - 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	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 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 "0" to "1" 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	Total current per group, horizontal configuration, 40°C	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	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" 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 max. 1000 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 100 µs 100 µ	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	Output current at signal "1", rated value	1 A
Output delay of "1" to "0" 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	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 Process alarm no	Output delay of "0" to "1"	150 µs
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 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 display green LED per channel Interrupts no	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 Process alarm 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 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	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 Process alarm 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 Process alarm 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 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 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
KC certification	yes