

Data sheet

SM 322S - SPEED-Bus (322-1BH70)

Technical data

Type SM 322S - SPEED-Bus General Information . Note - Features SPEED-Bus to output current 0.5 A SPEED-Bus Image: Comparison of the second output current 0.5 A SPEED-Bus Image: Comparison of the second output current 0.5 A Current consumption/power loss S00 mA Current consumption/power loss 5 W Tachnical data digital outputs Number of outputs Number of outputs 16 Cable length, unshielded 600 m Rated lead voltage DC 24 V Current consumption from load voltage L+ (without load) 30 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, 40°C 4 A Output delay of "0" 0" 1" 6.12 µs Output delay of "1" 0" 0" 6.12 µs Output delay of "1" 0" 0" 6.12 µs Minimum load current - Lamp load 5 W Parallel switching of outputs for increased power not possible Parallel switching of outputs for increased power not possible Parallel switching of outputs for increased power not possible Parallel switching of outputs for increased power<	Order no.	322-1BH70
General information Note - Features SPEED-Bus Features SPEED-Bus Current consumption/power loss S Current consumption from backplane bus 380 mA Power loss 5 W Technical data digital outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rate load voltage DC 24 V 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 Total current per group, vertical configuration 4 A Output day of 1°1 to 1° 6.12 µS Minimum load current - Lamp load 5 W Parallel switching of outputs for includend of a load not possible Actuation of digital input Image: Sime 10 × Sim		SM 322S - SPEED-Bus
Note - Festures SPEED-Bus Gast outputs Output current 0.5 A SPEED-Bus Image: Current consumption from backplane bus Current consumption from backplane bus 380 mA Power loss 5 W Technical data digital outputs 16 Cable length, unshielded 600 m Cable length, unshielded 600 m Rated load voltage DC 24 V Current orssumption from load voltage L+ (without load) 30 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, vortized configuration, 60°C 4 A Output delay of 0° to 1° 6.12 µs Output delay of 0° to 1° 6.12 µs Output delay of 1° to 0° 6.12 µs Minimum load current - Lamp load 5 W Parallel switching of outputs for increased power not possible Actuation of digital input Image: Not Site Switching frequency with inductive load max. 100 kHz Switching frequency with inductive load max. 104 kHz Switching frequency with inductive load max. 104 kZ Switching fre		
Features SPEED-Bus SPEED-Bus Image: Comparison of the second	General information	
16 fast outputs SPEED-Bus Current consumption/power loss Current consumption/power loss Current consumption from backplane bus 390 mA Power loss 5 W Technical data digital outputs 16 Cable length, shielded 600 m Cable length, unshielded 600 m Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) 30 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, 60°C 4 A Total current per group, vertical configuration 4 A Output day of 1°1 *0 *0° 6.12 µs Output day of 1°1 *0 *0° 6.12 µs Minimum load current - Lamp load 5 W Paratelle switching of outputs for increased power not possible Paratelle switching of outputs for increased power not possible Paratelle switching frequency with inductive load max. 100 kHz Switching frequency with inductive load max. 0.5 Hz Switching frequency with inductive load <td>Note</td> <td>-</td>	Note	-
Current consumption/power loss Current consumption from backplane bus 390 mA Power loss 5 W Technical data digital outputs 16 Cable length, shelded 1000 m Cable length, shelded 600 m Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) 30 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration, 60°C 4 A Output delay of "0" to 1" 6.12 µs Output delay of "0" to 1" 6.12 µs Output delay of "1" to "0" 6.12 µs Minimum load current - Lamp load 5 W Parallel switching of outputs for increased power not possible Parallel switching frequency with inductive load max. 100 kHz Switching frequency output delay of uput ves, electronic Trigger level 1 A Number of operating cycle of relay outputs - Switching frequency with inductive load max. 10 Hz Internal limitation of inductive shut-off voltage 1 A Number of operaling cycle of relay outputs -	Features	16 fast outputs
Current consumption from backplane bus 390 mA Power loss 5 W Technical data digital outputs 16 Number of outputs 16 Cable length, shielded 600 m Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) 30 mA 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 Output delay of °C° to *1° 6.12 µs Output delay of °C° to *1° 6.12 µs Output delay of °C° to *1° 6.12 µs Minimum load current - Lamp load 5 W Parallel switching of outputs for increased power not possible Actuation of digital input Image: State Sta	SPEED-Bus	✓
Power loss 5 W Technical data digital outputs 16 Number of outputs 16 Cable length, shielded 600 m Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) 30 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, horizontal configuration, 60°C 4 A Output delay of '0' to '1' 6.12 µs Output delay of '0' to '1' 6.12 µs Output delay of '0' to '1' 6.12 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 Actuation of digital input ✓ Switching frequency with inductive load max. 0.5 Hz Switching frequency on lamp load max. 10 kHz Switching requency on lamp load max. 10 Hz Internal limitation of inductive shut-off voltage L+ (<2 V)	Current consumption/power loss	
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) 30 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 delay of "0" to "1" 6.12 µs Output delay of "1" to "0" 6.12 µs Minimun load current - Lamp load 5 W Parallel switching of outputs for increased power not possible Parallel switching of outputs for increased power not possible Actuation of digital input ✓ Switching frequency with inductive load max. 100 kHz Switching requency with inductive load max. 100 kHz Switching requency on lamp load max. 100 kHz Switching requency of relay outputs - Switching capacity of contacts - Switching capacity of contacts - Switching requency of nelay outputs -	Current consumption from backplane bus	390 mA
Number of outputs16Cable length, shielded1000 mCable length, unshielded600 mRated load voltageDC 24 VCurrent consumption from load voltage L+ (without load)30 mATotal current per group, horizontal configuration, 40°C4 ATotal current per group, horizontal configuration, 60°C4 AOutput current at signal "1", rated value0.5 AOutput delay of "0" to "1"6.12 µsOutput delay of "0" to "1"6.12 µsMinimum load current-Lamp load5 WParallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleParallel switching frequency with resistive loadmax. 100 kHzSwitching frequency with inductive loadmax. 10.5 HzSwitching frequency on lamp loadmax. 10.5 HzSwitching requency on lamp loadmax. 10.5 HzSwitching requency of or outputs-Switching capacity of contacts-Switching capacity of contacts-Switching a polection of outputyes, electronicTrigger level1 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus displaygreen LED per channel	Power loss	5 W
Number of outputs16Cable length, shielded1000 mCable length, unshielded600 mRated load voltageDC 24 VCurrent consumption from load voltage L+ (without load)30 mATotal current per group, horizontal configuration, 40°C4 ATotal current per group, horizontal configuration, 60°C4 AOutput current at signal "1", rated value0.5 AOutput delay of "0" to "1"6.12 µsOutput delay of "0" to "1"6.12 µsMinimum load current-Lamp load5 WParallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleParallel switching frequency with resistive loadmax. 100 kHzSwitching frequency with inductive loadmax. 10.5 HzSwitching frequency on lamp loadmax. 10.5 HzSwitching requency on lamp loadmax. 10.5 HzSwitching requency of or outputs-Switching capacity of contacts-Switching capacity of contacts-Switching a polection of outputyes, electronicTrigger level1 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus displaygreen LED per channel	Technical data digital outputs	
Cable length, unshielded600 mRated load voltageDC 24 VCurrent consumption from load voltage L+ (without load)30 mATotal current per group, horizontal configuration, 40°C4 ATotal current per group, horizontal configuration4 AOutput current at signal *1*, rated value0.5 AOutput delay of *0* to *1*6.12 µsOutput delay of *1* to *0*6.12 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 input✓Switching frequency with resistive loadmax. 100 kHzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputs-Switching capacity of contacts-Output data size2 ByteStatus displaygreen LED per channel		16
Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) 30 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 0.5 A Output delay of *0* to *1* 6.12 µs Output delay of *1* to *0* 6.12 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 Actuation of digital input ✓ Switching frequency with resistive load max. 100 kHz Switching frequency on lamp load max. 100 kHz Switching frequency on lamp load max. 10 Hz Internal limitation of inductive shut-off voltage L+ (-52 V) Short-circuit protection of outputs - Switching capacity of contacts - Output data size 2 Byte Status display green LED per channel	Cable length, shielded	1000 m
Current consumption from load voltage L+ (without load) 30 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, vertical configuration, 60°C 4 A Output current at signal *1*, rated value 0.5 A Output delay of *0* to *1* 6.12 μs Output delay of *1* to *0* 6.12 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 Actuation of digital input ✓ Switching frequency with resistive load max. 100 kHz 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+ (-52 V) Short-circuit protection of output yes, electronic Trigger level 1 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status display green LED per channel	Cable length, unshielded	600 m
Total current per group, horizontal configuration, 40°C4 ATotal current per group, horizontal configuration4 AOutput current at signal *1*, rated value0.5 AOutput delay of *0* to *1*6.12 µsOutput delay of *1* to *0*6.12 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 inputImax. 100 kHzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltageL + (-52 V)Short-circuit protection of outputs-Switching capacity of contacts-Output data size2 ByteStatus displaygreen LED per channel	Rated load voltage	DC 24 V
Total current per group, horizontal configuration, 60°C4 ATotal current per group, vertical configuration4 AOutput current at signal *1*, rated value0.5 AOutput delay of *0" to *1*6.12 µsOutput delay of *1" to *0*6.12 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 input✓Switching frequency with resistive loadmax. 100 kHzSwitching frequency on lamp loadmax. 0.5 HzSwitching frequency on lamp loadmax. 101 HzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronicTrigger level1 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus displaygreen LED per channel	Current consumption from load voltage L+ (without load)	30 mA
Total current per group, vertical configuration4 AOutput current at signal *1*, rated value0.5 AOutput delay of *0* to *1*6.12 μsOutput delay of *1* to *0*6.12 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 input✓Switching frequency with resistive loadmax. 100 kHzSwitching frequency on lamp loadmax. 0.5 HzSwitching of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputs-Switching capacity of contacts-Output data size2 ByteStatus displaygreen LED per channel	Total current per group, horizontal configuration, 40°C	4 A
Output current at signal "1", rated value 0.5 A Output delay of "0" to "1" 6.12 µs Output delay of "1" to "0" 6.12 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 Actuation of digital input ✓ Switching frequency with resistive load max. 100 kHz 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+ (-52 V) Short-circuit protection of output yes, electronic Trigger level 1 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status display green LED per channel	Total current per group, horizontal configuration, 60°C	4 A
Output delay of "0" to "1" 6.12 µs Output delay of "1" to "0" 6.12 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 Actuation of digital input ✓ Switching frequency with resistive load max. 100 kHz 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+ (-52 V) Short-circuit protection of output yes, electronic Trigger level 1 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status display green LED per channel	Total current per group, vertical configuration	4 A
Output delay of "1" to "0"6.12 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 inputImax. 100 kHzSwitching frequency with resistive loadmax. 100 kHzSwitching frequency on lamp loadmax. 0.5 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronicTrigger level1 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus displaygreen LED per channel	Output current at signal "1", rated value	0.5 A
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 Actuation of digital input Image: Constraint of Constration,	Output delay of "0" to "1"	6.12 µs
Lamp load5 WParallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputImax. 100 kHzSwitching frequency with resistive loadmax. 100 kHzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronicTrigger level1 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus information, alarms, diagnosticsgreen LED per channel	Output delay of "1" to "0"	6.12 µs
Parallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputImage: Contract Science	Minimum load current	-
Parallel switching of outputs for increased powernot possibleActuation of digital inputImage: Switching frequency with resistive loadmax. 100 kHzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronicTrigger level1 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus displaygreen LED per channel	Lamp load	5 W
Actuation of digital inputImage: Constraint of the second sec	Parallel switching of outputs for redundant control of a load	not possible
Switching frequency with resistive loadmax. 100 kHzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronicTrigger level1 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus information, alarms, diagnosticsStatus displaygreen LED per channel	Parallel switching of outputs for increased power	not possible
Switching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronicTrigger level1 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus information, alarms, diagnosticsStatus displaygreen LED per channel	Actuation of digital input	 Image: A second s
Switching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronicTrigger level1 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus information, alarms, diagnosticsStatus displaygreen LED per channel	Switching frequency with resistive load	max. 100 kHz
Internal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronicTrigger level1 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus information, alarms, diagnosticsgreen LED per channel	Switching frequency with inductive load	max. 0.5 Hz
Short-circuit protection of output yes, electronic Trigger level 1 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics green LED per channel	Switching frequency on lamp load	max. 10 Hz
Trigger level 1 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status information, alarms, diagnostics green LED per channel	Internal limitation of inductive shut-off voltage	L+ (-52 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	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	Trigger level	1 A
Output data size 2 Byte Status information, alarms, diagnostics Status display green LED per channel	Number of operating cycle of relay outputs	-
Status information, alarms, diagnostics Status display green LED per channel	Switching capacity of contacts	-
Status display green LED per channel	Output data size	2 Byte
	Status information, alarms, diagnostics	
Interrupts no	Status display	green LED per channel
	Interrupts	no
Process alarm no	Process alarm	no



Diagnostic interrupt	no A YASKAWA COMPANY
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	✓
Between channels of groups to	8
Between channels and backplane bus	A.
Insulation tested with	DC 500 V
Datasizes	
Input bytes	0
Output bytes	2
Parameter bytes	0
Diagnostic bytes	0
Housing	
Material	PPE
Mounting	DIN rail SPEED-Bus
Mechanical data	
Dimensions (WxHxD)	40 mm x 125 mm x 120 mm
Weight	250 g
Environmental conditions	
Operating temperature	0 °C to 60 °C
Storage temperature	-25 °C to 70 °C
Certifications	
UL508 certification	yes