

Data sheet SM 222 (222-1BF50)

Technical data

Type SM 222 General information - Features a Low-Side outputs Output corrent 0.5 A Current consumption/power loss - Current consumption/power loss 50 mA Power loss 1.5 W Technical data digital outputs 8 Number of outputs 8 Cable length, shielded 600 m Cable length, unshielded 600 m Rated load votage DC 20.428.8 V Current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration, 40°C 4 A Output current at signal *1°, rated value 0.5 A Output day of °1 to °1* 30 µ6 Output day of °1 to °1* 30 µ6 Output day of °1 to °1* 30 µ6 Output day of °1 to °1* 00 µ5 Minimum load current - Lamp load 5 W Parallel switching of outputs for increased power mot passible Actuation of digital input Switching frequency with resistive load max. 1000 Hz Switching requency wi	Order no.	222-1BF50
Note - Features 8 Low-Site outputs Output current 0.5 A Current consumption/power loss 50 mA Power loss 1.5 W Technical data digital outputs 8 Cable 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 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, voltizantal configuration, 40°C 4 A Total current per group, voltizantal configuration, 40°C 4 A Output day of 1° to 1°1 30 μs Switching of outputs for redundant control of a load not possible Parallel switching of outputs for redundant control of a load max. 1000 Hz Switching frequency with inductive load max. 1000 Hz Switching frequency with inductive load max. 1000 Hz Switching frequency on imp		SM 222
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Power loss 1.5 W Technical data digital outputs 8 Number of outputs 8 Cable length, shielded 600 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Current consumption from load voltage L+ (without load) 15 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration 4 A Output delay of "0" to "1" 30 μs Output delay of "1" to "0" 100 μs Minimun load current - Lamp load 5 W Parallel switching of outputs for increased power not possible Parallel switching frequency with inductive load max. 1000 Hz Switching frequency on lamp load max. 100 Hz Switching frequency on lamp load max. 100 Hz Switching requency on lamp load <td>Current consumption/power loss</td> <td></td>	Current consumption/power loss	
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Number of outputs 8 Cable 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 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration 4 A Output delay of "0" to "1" 30 μs Output delay of "0" to "1" 30 μs Output delay of "1" to "0" 100 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 Actuation of digital input ✓ Switching frequency with inductive load max. 0.5 Hz Switching requency on lamp load max. 1000 Hz Switching requency of relay outputs - Switching requency on lamp load max. 1000 Hz Switching requency on lamp load max. 1000 Hz Switching requency on lamp load max. 10 Hz Therenal limitation of inductive shut-off voltage	Power loss	1.5 W
Cable 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 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 delay of "0" to "1" 30 µs Output delay of "1" to "0" 100 µs Minimum load current - Lamp load 5 W Parallel switching of outputs for increased power not possible Actuation of digital input ✓ Switching frequency with inductive load max. 1000 Hz Switching frequency with inductive load max. 0.5 Hz Switching frequency with inductive load max. 10.7 Hz Switching requency on lamp load max. 10 Hz Internal limitation of output yes, electronic Trigger level 1.7 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output deta size 1 Byle Status display green LED per channel Interrupts no	Technical data digital outputs	
Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Current consumption from load voltage L+ (without load) 15 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 at signal "1", rated value 0.5 A Output delay of "0" to "1" 30 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 not possible Parallel switching of outputs for increased power not possible Switching frequency with resistive load max. 1000 Hz Switching frequency with inductive load max. 1000 Hz Switching frequency on lamp load max. 100 Hz Switching frequency on lamp load max. 100 Hz Switching requency on lamp load max. 101 Hz Internal limitation of inductive shut-off voltage +45 V Short-circuit protection of output yes, electronic Trigger level 1.7 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 1 Byte	Number of outputs	8
Rated load voltage DC 20.428.8 V Current consumption from load voltage L+ (without load) 15 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration, 60°C 4 A Output current per group, vertical configuration, 60°C 4 A Output delay of "0" to "1" 30 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 not possible Parallel switching for quiputs for increased power not possible Actuation of digital input ✓ Switching frequency with resistive load max. 1000 Hz Switching frequency on lamp load max. 1000 Hz Switching frequency on lamp load max. 1000 Hz Switching frequency on lamp load max. 1000 Hz Switching requency on lamp load max. 100 Hz Switching requency on lamp load max. 100 Hz Switching requency on lamp load max. 101 Hz Internal limitation of inductive shut-off voltage +45 V Short-circuit protection of output yes, electronic Trigger level 1.7 A Number of operating cycle of relay outputs - Switching capacity of contacts	Cable length, shielded	1000 m
Current consumption from load voltage L+ (without load) 15 mA 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" 30 μs Output delay of "0" to "0" 100 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. 1000 Hz Switching frequency with inductive load max. 0.5 Hz Switching frequency on lamp load max. 100 Hz Internal limitation of inductive shut-off voltage +45 V Short-circuit protection of output yes, electronic Trigge level 1.7 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 1 Byte 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 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" 30 µs Output delay of "0" to "0" 100 µs Minimum load current - Lamp load 5 W Parallel switching of outputs for redundant control of a load not possible Actuation of digital input Image: Configuration of the configuration of unputs for increased power not possible Actuation of digital input Image: Configuration of the configuration of the configuration of the configuration of unputs for increased power not possible Switching frequency with resistive load max. 1000 Hz Switching frequency with resistive load Switching frequency on lamp load max. 0.5 Hz Switching frequency on lamp load Internal limitation of inductive shut-off voltage +45 V Short-circuit protection of output Yes, electronic 1.7 A Number of operating cycle of relay outputs - Switching capacity of contacts - - - <	Rated load voltage	DC 20.428.8 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"30 μsOutput delay of "0" to "1"100 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 inputSwitching frequency with resistive loadmax. 1000 HzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 0.5 HzInternal limitation of inductive shut-off voltage+45 VShort-circuit protection of outputyes, electronicTrigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus displaygreen LED per channelInterruptisnoProcess alarmno	Current consumption from load voltage L+ (without load)	15 mA
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Output current at signal "1", rated value0.5 AOutput delay of "0" to "1"30 µsOutput delay of "1" to "0"100 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. 1000 HzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 0.1 HzInternal limitation of inductive shut-off voltage+45 VShort-circuit protection of outputs-Trigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus displaygreen LED per channelInterruptsnoProcess alarmno	Total current per group, horizontal configuration, 60°C	4 A
Output delay of "0" to "1"30 µsOutput delay of "1" to "0"100 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. 1000 HzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 0.100 HzInternal limitation of inductive shut-off voltage+45 VShort-circuit protection of outputs-Trigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus displaygreen LED per channelInterruptsnoProcess alarmno	Total current per group, vertical configuration	4 A
Output delay of "1" to "0"100 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. 1000 HzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltage+45 VShort-circuit protection of outputyes, electronicTrigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus displaygreen LED per channelInterruptsnoProcess alarmno	Output current at signal "1", rated value	0.5 A
Minimum 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. 1000 HzSwitching frequency with resistive loadmax. 1000 HzSwitching frequency on lamp loadmax. 0.5 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltage+45 VShort-circuit protection of outputyes, electronicTrigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus displaygreen LED per channelInterruptsnoProcess alarmno	Output delay of "0" to "1"	30 µs
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Parallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputImax. 1000 HzSwitching frequency with resistive loadmax. 1000 HzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltage+45 VShort-circuit protection of outputyes, electronicTrigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus displaygreen LED per channelInterruptsnoProcess alarmno	Minimum load current	-
Parallel switching of outputs for increased powernot possibleActuation of digital inputImax 1000 HzSwitching frequency with resistive loadmax. 1000 HzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltage+45 VShort-circuit protection of outputyes, electronicTrigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus displaygreen LED per channelInterruptsnoProcess alarmno	Lamp load	5 W
Actuation of digital inputImage: Actuation of digital inputSwitching frequency with resistive loadmax. 1000 HzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltage+45 VShort-circuit protection of outputyes, electronicTrigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus information, alarms, diagnosticsgreen LED per channelInterruptsnoProcess alarmno	Parallel switching of outputs for redundant control of a load	not possible
Switching frequency with resistive loadmax. 1000 HzSwitching frequency with inductive loadmax. 0.5 HzSwitching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltage+45 VShort-circuit protection of outputyes, electronicTrigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus information, alarms, diagnosticsgreen LED per channelInterruptsnoProcess alarmno	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 voltage+45 VShort-circuit protection of outputyes, electronicTrigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus information, alarms, diagnosticsgreen LED per channelInterruptsnoProcess alarmno	Actuation of digital input	✓
Switching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltage+45 VShort-circuit protection of outputyes, electronicTrigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus information, alarms, diagnosticsStatus displaygreen LED per channelInterruptsnoProcess alarmno	Switching frequency with resistive load	max. 1000 Hz
Internal limitation of inductive shut-off voltage+45 VShort-circuit protection of outputyes, electronicTrigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus information, alarms, diagnosticsgreen LED per channelInterruptsnoProcess alarmno	Switching frequency with inductive load	max. 0.5 Hz
Short-circuit protection of outputyes, electronicTrigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus information, alarms, diagnosticsStatus displaygreen LED per channelInterruptsnoProcess alarmno	Switching frequency on lamp load	max. 10 Hz
Trigger level1.7 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size1 ByteStatus information, alarms, diagnosticsStatus displaygreen LED per channelInterruptsnoProcess alarmno	Internal limitation of inductive shut-off voltage	+45 V
Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 1 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 1 Byte Status information, alarms, diagnostics - Status display green LED per channel Interrupts no Process alarm no	Trigger level	1.7 A
Output data size 1 Byte Status information, alarms, diagnostics Status display Interrupts Process alarm	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	1 Byte
Interrupts no Process alarm 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	A YASKAWA COMPANY	
Diagnostics information read-out	none		
Supply voltage display	green LED per group	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	s.		
Insulation tested with	DC 500 V		
Datasizes			
Input bytes	0		
Output bytes	1		
Parameter bytes	0		
Diagnostic bytes	0		
Housing			
Material	PPE / PA 6.6		
Mounting	Profile rail 35 mm		
Mechanical data			
Dimensions (WxHxD)	25.4 mm x 76 mm x 88 mm	n	
Weight	90 g		
Environmental conditions			
Operating temperature	0 °C to 60 °C		
Storage temperature	-25 °C to 70 °C		
Certifications			
UL508 certification	yes		