

Data sheet SM 222, Set (KS222-1BH00)

Technical data

Power loss 3.5 W Technical data digital outputs Number of outputs 16 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) 10 mA Total current per group, horizontal configuration, 40°C 8 A Total current per group, horizontal configuration, 60°C 8 A Total current per group, vertical configuration 8 A Output delay of "0" to "1" 150 μs Output delay of "0" to "1" 100 μs Minimum load current - Lamp load - Parallel switching of outputs for redundant control of a load not possible Parallel 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+ (-52 V) Shot-circuit protection of output yes, electronic Trigger level 1.5 A	Order no.	KS222-1BH00
General Information Note - Features 16 outputs LED status display on conversion module UB48 Outputs unem 0.5 A Current consumption/power loss 120 mA Power loss 3.5 W Technical data digital outputs 16 Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.6 V Current consumption from load voltage L+ (without load) 10 mA Total current per group, horizontal configuration, 40°C 8 A Total current per group, horizontal configuration, 60°C 8 A Total current per group, vertical configuration, 60°C 8 A Output deley of "0" to "1" 150 µs Output deley of "0" to "1" 160 µs Output deley of "0" to "1" 100 µs Minimum load current - Lamp load - Parallel switching of outputs for increased power not possible Actuation of digital input # Switching frequency with inductive load max. 100 Hz Switching frequency with resistive load max. 100 Hz Switching r	Туре	SM 222, Set
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Current consumption from backplane bus 120 mA Power loss 3.5 W Technical data digital outputs 16 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) 10 mA Total current per group, horizontal configuration, 40°C 8 A Total current per group, horizontal configuration, 60°C 8 A Total current per group, vertical configuration, 60°C 8 A Output durent at signal *1*, rated value 0.5 A Output durent at signal *1*, rated value 0.5 A Output delay of *0° to *1* 150 µs Output delay of *0° to *1* 100 µs Minimum load current - Lamp load - Parallel switching of outputs for increased power not possible Parallel switching of outputs for increased power not possible Switching frequency with inductive load max. 1000 Hz Switching frequency with inductive load max. 1000 Hz Switching frequency on lamp load - Internal limitation of inductive shut-off voltage L+ (-52 V) Short-incut protection of output yes, electronic Trigge level 1.5 A Number of operatin	reatures	LED status display on conversion module UB48
Power loss 3.5 W Technical data digital outputs 16 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) 10 mA Total current per group, horizontal configuration, 40°C 8 A Total current per group, horizontal configuration 8 A Output delay of "0" to "1" 0.5 A Output delay of "0" to "1" 150 μs Output delay of "1" to "0" 100 μs Minimum load current - Lamp load - Parallel switching of outputs for increased power not possible Actuation of digital input Imax. 1000 Hz Switching frequency with inductive load max. 1000 Hz Switching frequency on lamp load max. 1000 Hz Switching requency on lamp load max. 1000 Hz Switching requency 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. 100 Hz	Current consumption/power loss	
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Number of outputs 16 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) 10 mA Total current per group, horizontal configuration, 40°C 8 A Total current per group, horizontal configuration 8 A Output current at signal "1", rated value 0.5 A Output delay of "0 "1" 150 µs Output delay of "0 "1" 100 µs Minimum load current - Lamp load - 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 frequency on amp load max. 1000 Hz Internal imitation of inductive shut-off voltage L+ (-52 V) Short-oricuit protection of output yes, electronic Trigger level 1.5 A Number of operating cycle of relay outputs - Switching capacity of contacts	Power loss	3.5 W
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Rated load voltage DC 20.428.8 V Current consumption from load voltage L+ (without load) 10 mA Total current per group, horizontal configuration, 40°C 8 A Total current per group, horizontal configuration, 60°C 8 A Total current per group, vertical configuration, 60°C 8 A Output current at signal "1", rated value 0.5 A Output delay of "0" 0" 1" 150 μs Output delay of "1" to "0" 100 μs Minimun load current - Lamp load - 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 Imax: 1000 Hz 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 requency on lamp load max: 1000 Hz Switching capacity of contacts -	Cable length, shielded	1000 m
Current consumption from load voltage L+ (without load) 10 mA Total current per group, horizontal configuration, 60°C 8 A Total current per group, horizontal configuration, 60°C 8 A Output current at signal "1", rated value 0.5 A Output delay of "0" to "1" 150 μs Output delay of "0" to "1" 100 μs Minimum load current - Lamp load - Parallel switching of outputs for redundant control of a load 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. 0.5 Hz Switching requency of outputs - Switching requency of contacts - Switching requency of any load max. 0.5 Hz Switching requency on lamp load max. 100 Hz Switching requency of or relay outputs - Switching capacity of contacts - Switching capacity of c	Cable length, unshielded	600 m
Total current per group, horizontal configuration, 40°C8 ATotal current per group, horizontal configuration, 60°C8 ATotal current per group, vertical configuration8 AOutput current at signal "1", rated value0.5 AOutput delay of "0" to "1"150 μsOutput delay of "1" to "0"100 μsMinimum load current-Lamp load-Parallel 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 HzSwitching frequency on lamp load1.5 ANumber of operating cycle of relay outputs-Trigger level1.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output dat asize2 ByteStatus information, alarms, diagnostics-Status displaynoneInterruptsnoProcess alarmno	Rated load voltage	DC 20.428.8 V
Total current per group, horizontal configuration, 60°C8 ATotal current per group, vertical configuration8 AOutput current at signal "1", rated value0.5 AOutput delay of "0" to "1"150 μsOutput delay of "1" to "0"100 μsMinimum load current-Lamp load-Parallel 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 HzSwitching of outputsSwitching cole of relay outputs-Switching cole of outputyes, electronicTrigger level1.5 ANumber of operating cycle of relay outputs-Status displaynoneInterruptsnoneProcess alarmno	Current consumption from load voltage L+ (without load)	10 mA
Total current per group, vertical configuration 8 A Output current at signal "1", rated value 0.5 A Output delay of "0" to "1" 150 µs Output delay of "1" to "0" 100 µs Minimum load current - Lamp load - 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. 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 1.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 2 Byte Status display none Interrupts no Process alarm no	Total current per group, horizontal configuration, 40°C	8 A
Output current at signal "1", rated value0.5 AOutput delay of "0" to "1"150 µsOutput delay of "1" to "0"100 µsMinimun load current-Lamp load-Parallel 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 voltageL+ (-52 V)Short-circuit protection of outputyes, electronicTrigger level1.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus displaynoneInterruptsnoProcess alarmno	Total current per group, horizontal configuration, 60°C	8 A
Output delay of "0" to "1"150 µsOutput delay of "1" to "0"100 µsMinimum load current-Lamp load-Parallel 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 voltageL+ (-52 V)Short-circuit protection of outputyes, electronicTrigger level1.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus displaynoneInterruptsnoProcess alarmno	Total current per group, vertical configuration	8 A
Output delay of "1" to "0" 100 µs Minimum load current - Lamp load - 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. 10 Hz Internal limitation of inductive shut-off voltage L+ (-52 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 none Interrupts no Process alarm no	Output current at signal "1", rated value	0.5 A
Minimum load current-Lamp load-Parallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputImax. 100 psibleSwitching 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+ (-52 V)Short-circuit protection of outputyes, electronicTrigger level1.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus displaynoneInterruptsnoProcess alarmno	Output delay of "0" to "1"	150 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 voltageL+ (-52 V)Short-circuit protection of outputyes, electronicTrigger level1.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus displaynoneInterruptsnoProcess 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 voltageL+ (-52 V)Short-circuit protection of outputyes, electronicTrigger level1.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus displaynoneInterruptsnoProcess alarmno	Lamp load	-
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 voltageL + (-52 V)Short-circuit protection of outputyes, electronicTrigger level1.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus displaynoneInterruptsnoProcess 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 voltageL+ (-52 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 displaynoneInterruptsnoProcess 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 voltageL+ (-52 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 displaynoneInterruptsnoProcess alarmno	Actuation of digital input	✓
Switching frequency on lamp loadmax. 10 HzInternal limitation of inductive shut-off voltageL+ (-52 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 displaynoneInterruptsnoProcess alarmno	Switching frequency with resistive load	max. 1000 Hz
Internal limitation of inductive shut-off voltageL+ (-52 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, diagnostics-Status displaynoneInterruptsnoProcess alarmno	Switching frequency with inductive load	max. 0.5 Hz
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 displaynoneInterruptsnoProcess alarmno	Switching frequency on lamp load	max. 10 Hz
Trigger level1.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size2 ByteStatus information, alarms, diagnosticsStatus displaynoneInterruptsnoProcess alarmno	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 none 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 none Interrupts no Process alarm no	Trigger level	1.5 A
Output data size 2 Byte Status information, alarms, diagnostics Status display none Interrupts no Process alarm no	Number of operating cycle of relay outputs	-
Status information, alarms, diagnostics Status display none Interrupts no Process alarm no	Switching capacity of contacts	-
Status display none Interrupts no Process alarm no	Output data size	2 Byte
Interrupts no Process alarm no	Status information, alarms, diagnostics	
Process alarm no	Status display	none
	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	none		
Group error display	none		
Channel error display	none		
Isolation			
Between channels	-		
Between channels of groups to	16		
Between channels and backplane bus	s.		
Insulation tested with	DC 500 V		
Datasizes			
Input bytes	0		
Output bytes	2		
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 r	25.4 mm x 76 mm x 88 mm	
Weight	80 g	80 g	
Environmental conditions			
Operating temperature	0 °C to 60 °C		
Storage temperature	-25 °C to 70 °C		
Certifications			
UL508 certification	yes		