

Data sheet

SM 222 (222-1BH00)

Technical data

Type SM 222 General Information Note	Order no.	222-1BH00
Note - Features - 16 outputs Output current 0.5 A LED status display on conversion module UB4x - Current consumption/power loss - 120 mA - Power loss - 3.5 W - Technical data digital outputs - 16 cable length, shielded - 1000 m - 16 cable length, unshielded - 1000 m - 16 cable length, unshielded - 1000 m - 16 cable length, unshielded - 1000 m - 17 cable length, unshielded - 1000 m - 1	Туре	SM 222
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Features 16 outputs Output current 0.5 A LED status display on conversion module UB4x Current consumption from backplane bus 120 mA Power loss 3.5 W Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, wishelded 1000 m Cable length, unshielded 1000 m Cable length, unshielded 1000 m Catolic urrent per group, horizontal configuration, 40°C 8.A Total current per group, horizontal configuration, 40°C 8.A Total current per group, vertical configuration, 60°C 8.A Cutput delay of "0" to "1" 150 µs Output delay of "1" to "0" 100 µs Minimum load current		
Current consumption/power loss Current consumption from backplane bus 120 mA Power loss 3.5 W Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, shielded 600 m Rated load voltage December 100 mA Total current per group, horizontal configuration, 40°C 8 A Total current per group, horizontal configuration, 60°C 8 A Total current signal "1", rated value 0.5 A Output callay of "0" to "1" 150 µs Output delay of "0" to "1" 150 µs Minimum load current Lamp load 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. 0.0 Hz Switching frequency with inductive load max. 0.1 Hz Switching frequency on lamp load max. 10 Hz Internal limitation of inductive shut-off voltage L+(-62 V) Short-circuit protection of outputs Status display none Interrupts no Process alarm no		
Current consumption from backplane bus 120 mA Power loss 3.5 W Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, shielded 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 current at signal *1*", rated value 0.5 A Output delay of *0° to *1* 150 µs Output delay of *1*0° to *1* 150 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 yes Switching frequency with inductive load max. 100 Hz Switching frequency with inductive 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 information, alarms, diagnostics Status display none Interrupts no	Features	Output current 0.5 A
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 8 A Total current per group, horizontal configuration 80°C 8 A Output current at signal *1*, rated value 0.5 A Output delay of *0° to *1* 150 µs Output delay of *10° to *1* 150 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 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+ (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	Current consumption/power loss	
Technical data digital outputs 16 Cable length, shielded 1000 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 current as 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 5 W Parallel switching of outputs for redundant control of a load not possible Parallel switching of outputs for increased power 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+ (-52 V) Short-circuit protection of outputs - Switching capacity of contacts - Cupput data size 2 Byte Status display none Interrupts no Process alarm no	Current consumption from backplane bus	120 mA
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 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 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 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+ (-52 V) Short-circuit protection of outputs - Switching capacity of contacts - Output data size 2 Byte Status display none Interrupts no	Power loss	3.5 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) 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 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 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 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+ (-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	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) 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 Cutput 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 5 W Parallel switching of outputs for increased power not possible 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+ (-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 information, alarms, diagnostics Status display none Interrupts no	Number of outputs	16
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 Cutput 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 5 W Parallel switching of outputs for increased power not possible 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+ (-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 information, alarms, diagnostics Status display none Interrupts no	<u> </u>	1000 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 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 5 W Parallel switching of outputs for increased power not possible 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+ (-52 V) Short-circuit protection of outputs Switching capacity of contacts - Switching capacity of contacts - Output data size 2 Byte Status display none Interrupts no		600 m
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 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 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 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+ (-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 Process alarm no	Rated load voltage	DC 20.428.8 V
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 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 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 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+ (-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 Process alarm no		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 "4" 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 not possible 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+ (-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 Process alarm no	Total current per group, horizontal configuration, 40°C	8 A
Output current at signal "1", rated value	Total current per group, horizontal configuration, 60°C	8 A
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 not possible 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+ (-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 information, alarms, diagnostics Status display none Process alarm no	Total current per group, vertical configuration	8 A
Output delay of "1" to "0" 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. 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 information, alarms, diagnostics Status display none Interrupts no Process alarm no	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 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+ (-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 information, alarms, diagnostics Status display none 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 not possible 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+ (-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	Output delay of "1" to "0"	100 μs
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 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+ (-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 information, alarms, diagnostics Status display none Interrupts no Process alarm 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+ (-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 information, alarms, diagnostics Status display none Interrupts no	Lamp load	5 W
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+ (-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 information, alarms, diagnostics Status display none Interrupts no Process alarm no	Parallel switching of outputs for redundant control of a load	not possible
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 information, alarms, diagnostics Status display none 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+ (-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 information, alarms, diagnostics Status display none 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+ (-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 information, alarms, diagnostics Status display none Interrupts no Process alarm no	Switching frequency with resistive load	max. 1000 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 information, alarms, diagnostics Status display none 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 none 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 none Interrupts no Process alarm no	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
Status display none Interrupts no Process alarm no	Status information, alarms, diagnostics	
Interrupts no Process alarm no		none
Process alarm no	<u> </u>	no
Diagnostic interrupt no	<u> </u>	no
	Diagnostic interrupt	no



Diagnostic functions	no A YASKAWA COMPAN'
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	yes
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 mm
Weight	80 g
Environmental conditions	
Operating temperature	0 °C to 60 °C
Storage temperature	-25 °C to 70 °C
Certifications	
UL certification	yes
KC certification	-