

Data sheet SM 222 (222-1BF20)

## Technical data

Type SM 222  General Information  Note - Features 8 supports SM 2000 S	Order no.	222-1BF20	
Note - Features - 8 outputs - Statures - 8 outputs - Statures - 8 outputs - Statures - 8 output current 2 A - 8 output current 2 A - 9 output 2 A	Туре	SM 222	
Note - Features - 8 outputs - Statures - 8 outputs - Statures - 8 outputs - Statures - 8 output current 2 A - 8 output current 2 A - 9 output 2 A	Conord information		
Features Solution in 4 groups per 2 outputs Solution So			
Solation in 4 groups per 2 outputs		-	
Current consumption from backplane bus 70 mA Power loss 3 W  Technical data digital outputs  Number of outputs 8 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage Let (without load) 10 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration, 60°C 4 A Total current at signal *1*", rated value 2 A Output delay of *0° to *1* 150 µs Output delay of *0° to *1* 150 µs Output delay of *0° to *0* Minimum load current	Features	Isolation in 4 groups per 2 outputs	
Power loss 3 W  Technical data digital outputs  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) 10 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 2 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 on lamp load max. 10 Hz  Internal limitation of loutput yes, electronic Trigger level 3 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	Current consumption/power loss		
Technical data digital outputs  Number of outputs  8  Cable length, shielded  600 m  Rated load voltage  DC 20.428.8 V  Current consumption from load voltage L+ (without load)  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  2 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 on lamp load  max. 10 Hz  Switching frequency on lamp load  max. 10 Hz  Internal limitation of inductive shut-off voltage  L+ (-52 V)  Short-circuit protection of outputs  7 Switching capacity of contacts  -  Output data size  1 Byte  Status display  green LED per channel  Interrupts  no  Process alarm	Current consumption from backplane bus	70 mA	
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) 10 mA Total current per group, horizontal configuration, 40°C 4 A Total current per group, horizontal configuration 4 A Output current as signal "1", rated value 2 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 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 1 Byte Status display green LED per channel Interrupts no	Power loss	3 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 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 2 A Output delay of *10" to *1" 150 µs Output delay of *1" to *10" 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. 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 Trigger level 3 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	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 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 2 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 3 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	Number of outputs	8	
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 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 2 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  Trigge level 3 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, shielded	1000 m	
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Output current at signal "1", rated value 2 A  Output delay of "0" to "1" 150 µs  Output delay of "1" to "0" 100 µs  Minimum load current	Total current per group, horizontal configuration, 60°C	4 A	
Output delay of "0" to "1"  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  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  3 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  Process alarm  no	Total current per group, vertical configuration	4 A	
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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 3 A  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	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 3 A  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	Minimum load current	-	
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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  3 A  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	Parallel switching of outputs for redundant control of a load	not possible	
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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 3 A  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	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  3 A  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	Switching frequency with inductive load	max. 0.5 Hz	
Short-circuit protection of output yes, electronic  Trigger level 3 A  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	Switching frequency on lamp load	max. 10 Hz	
Trigger level 3 A  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	Internal limitation of inductive shut-off voltage	L+ (-52 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	3 A	
Output data size 1 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	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		
Group error display	red LED per group		
Channel error display	none		
Isolation			
Between channels	yes		
Between channels of groups to	2		
Between channels and backplane bus	yes		
Insulation tested with	DC 500 V		
Datasizes			
Input bytes	0	0	
Output bytes	1	1	
Parameter bytes	0		
Diagnostic bytes	0		
Housing			
Material	PPE / PA 6.6		
Mounting	Profile rail 35 mm	Profile rail 35 mm	
Mechanical data			
Dimensions (WxHxD)	25.4 mm x 76 mm x 88 n	25.4 mm x 76 mm x 88 mm	
Weight	90 g	90 g	
Environmental conditions			
Operating temperature	0 °C to 60 °C	0 °C to 60 °C	
Storage temperature	-25 °C to 70 °C		
Certifications			
UL certification	yes		
KC certification	-		