

Data sheet SM 022 (022-1BB70)

Technical data

Type SM 022 Module ID 0F41 57E1 General information - Note - Peatures 2 outputs Time stamp Output current 0.5 A Current consumption/power loss - Current consumption/power loss 0.95 W Technical data digital outputs 2 Number of outputs 2 Cable length, shielded 1000 m Cable length, shielded 600 m Rated load votage DC 20.428.8 V Current consumption from load votage L+ (without load) 15 mA Total current per group, horizontal configuration, 40°C 1 A Total current per group, horizontal configuration, 40°C 1 A Colput delay of '1 * 1° max. 100 ns Output current at signal *1", rated value 0.5 A Output delay of '1 * 1° max. 100 ns Output delay of '1 * 1° max. 100 ns Output delay of '1 * 1° max. 100 ns Output delay of '1 * 1° max. 100 ns Switching frequency on Interested power not possible Parailel switching of outputs for increased power <t< th=""><th>Order no.</th><th>022-1BB70</th></t<>	Order no.	022-1BB70
General information Note - Features 2 outputs Time stamp p Output current 0.5 A Current consumption/power loss 0.6 mA Power loss 0.35 W Technical data digital outputs 2 Cable length, unshielded 000 m Cable length, unshielded 00 m Cable length, unshielded 00 m Cable length, unshielded 0.2 m <td>Туре</td> <td>SM 022</td>	Туре	SM 022
Note - Features 2 outputs Time stamp Output current 0.5 A Current consumption/power loss 105 mA Power loss 0.35 W Technical data digital outputs 2 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) 15 mA Total current per group, horizontal configuration, 40°C 1 A Total current per group, horizontal configuration, 60°C 1 A Total current per group, vertical configuration, 60°C 1 A Output delay of °0° to °1° max. 100 ns Output delay of °1° to °1° max. 100 ns Minimu load current - Lamp load 10 W Parallel switching of outputs for redundant control of a load not possible Parallel switching of outputs for redundant control of a load max. 40 kHz Switching frequency with inductive load max. 40 kHz Switching frequency with nortexister load max. 40 kHz Switching frequency with notacutse load max. 40 kHz Switch	Module ID	0F41 57E1
Features 2 outputs Time stamp Current consumption/power loss Current consumption from backplane bus 105 mA Power loss 0.95 W Technical data digital outputs 2 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20 428. V Current consumption from load voltage L+ (without load) 15 mA Total current per group, horizontal configuration, 60°C 1 A Total current per group, horizontal configuration, 60°C 1 A Total current per group, vertical configuration, 60°C 1 A Total current signal "1", rated value 0.5 A Output delay of 1" to 1" max. 100 ns Output delay of 1" to 10" max. 100 ns Minimum load current - Lamp load 10 W Parallel switching of outputs for redundant control of a load not possible Parallel switching frequency with nesistive load max. 40 kHz Switching frequency on lamp loa	General information	
Time stamp Output corrent 0.5 A Current consumption/power loss Current consumption from backplane bus 105 mA Power loss 0.35 W Technical data digital outputs 2 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 1 A Total current per group, vertical configuration, 60°C 1 A Total current per group, vertical configuration, 60°C 1 A Total current per group, vertical configuration, 60°C 1 A Output delay of '0' to '1' max. 100 ns Output delay of '1' to '0' max. 100 ns Output delay of '1' to '0' max. 100 ns Minimum load current - Lamp load not possible Parallel switching of outputs for increased power not possible Parallel switching of requency on lamp load max. 40 kHz Switching frequency with inductive load max. 40 kHz Switching frequency with inductive load	Note	
Current consumption from backplane bus 105 mA Power loss 0.95 W Technical data digital outputs Number of outputs Number of outputs 2 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 1 A Total current per group, horizontal configuration 1 A Output current at signal "1", rated value 0.5 A Output delay of "0" to "1" max. 100 ns Output delay of "1" to "0" max. 100 ns Minimum load current - Lamp load 10 W Parallel switching of outputs for increased power not possible Parallel switching frequency with inductive load max. 40 kHz Switching frequency on lamp load max. 40 kHz Switching frequency on lamp load max. 40 kHz Switching frequency of on lamp load max. 40 kHz Switching requency of no lamp load max. 40 kHz Switching requency on lamp load max. 40 kHz Switching requency on lamp load max. 40 kHz Switching requency of onlapt yes, electronic, and only highside Trigger level<	Features	Time stamp
Power loss 0.95 W Technical data digital outputs Image: Second	Current consumption/power loss	
Technical data digital outputs Number of outputs 2 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 1 A Total current per group, horizontal configuration 1 A Output current at signal *1*, rated value 0.5 A Output delay of *0* to *1* max. 100 ns Output delay of *0* to *1* max. 100 ns Output delay of *1* to *0* max. 100 ns Minimum load current - Lamp load 10 W Parallel switching of outputs for increased power not possible Parallel switching frequency with inductive load max. 40 kHz Switching frequency with inductive load max. 40 kHz Switching frequency on lamp load max. 40 kHz Thereal file system of outputs - Switching requency on lamp load max. 40 kHz Switching requency on lamp load max. 40 kHz Switching requency on lamp load max. 40 kHz Switching capacity of contacts	Current consumption from backplane bus	105 mA
Number of outputs2Cable length, shielded1000 mCable length, unshielded600 mRated load voltageDC 20.428.8 VCurrent consumption from load voltage L+ (without load)15 mATotal current per group, horizontal configuration, 40°C1 ATotal current per group, horizontal configuration, 60°C1 AOutput current at signal "1", rated value0.5 AOutput delay of "0" to "1"max. 100 nsOutput delay of "1" to "0"max. 100 nsMinimum load current-Lamp load10 WParallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for redundant control of a loadmax. 40 kHzSwitching frequency with inductive loadmax. 40 kHzSwitching frequency with inductive loadmax. 40 kHzSwitching requency on amp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus sinformation, alarms, diagnosticsSitel per channelInterruptsno	Power loss	0.95 W
Cable length, shielded1000 mCable length, unshielded600 mRated load voltageDC 20.428.8 VCurrent consumption from load voltage L+ (without load)15 mATotal current per group, horizontal configuration, 40°C1 ATotal current per group, horizontal configuration1 AOutput current at signal "1", rated value0.5 AOutput delay of "0" to "1"max. 100 nsOutput delay of "1" to "0"max. 100 nsMinimum load current-Lamp load10 WParallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with nesistive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzSwitching requency of a not possible2.5 ANumber of operating cycle of relay outputs-Switching requency on lamp loadmax. 40 kHzSwitching requency on lamp loadmax. 40 kHzSwitching capacity of contacts-Output data size60 ByteStatus sifer-Switching capacity of contacts-Output data size60 ByteStatus siferStatus displayInterruptsno	Technical data digital outputs	
Cable length, unshielded600 mRated load voltageDC 20.428.8 VCurrent consumption from load voltage L+ (without load)15 mATotal current per group, horizontal configuration, 40°C1 ATotal current per group, horizontal configuration1 AOutput current at signal *1*, rated value0.5 AOutput delay of *0* to *1*max. 100 nsOutput delay of *1* to *0*max. 100 nsMinimum load current-Lamp load10 WParallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with nesistive loadmax. 40 kHzSwitching frequency with inductive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus siplaygreen LED per channelInterruptsno	Number of outputs	2
Rated load voltageDC 20.428.8 VCurrent consumption from load voltage L+ (without load)15 mATotal current per group, horizontal configuration, 40°C1 ATotal current per group, horizontal configuration1 AOutput current at signal "1", rated value0.5 AOutput delay of "0" to "1"max. 100 nsOutput delay of "0" to "1"max. 100 nsOutput delay of "1" to "0"max. 100 nsMinimum load current-Lamp load10 WParallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with resistive loadmax. 40 KHzSwitching frequency with inductive loadmax. 40 KHzSwitching frequency on lamp loadmax. 40 KHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputs-Switching capacity of contacts-Output data size60 ByteStatus displaygreen LED per channelInterruptsno	Cable length, shielded	1000 m
Current consumption from load voltage L+ (without load) 15 mA Total current per group, horizontal configuration, 40°C 1 A Total current per group, vertical configuration, 60°C 1 A Total current per group, vertical configuration 1 A Output delay of "0" to "1" max. 100 ns Output delay of "0" to "1" max. 100 ns Output delay of "1" max. 100 ns Output delay of "4" to "0" max. 100 ns Minimum load current - Lamp load 10 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. 40 kHz Switching frequency with inductive load max. 40 kHz Switching frequency on lamp load max. 40 kHz Internal limitation of inductive shut-off voltage L+ (-52 V) Short-circuit protection of output yes, electronic, and only highside Trigger level 2.5 A Number of porating cycle of relay outputs - Switching capacity of contacts - Output data size	Cable length, unshielded	600 m
Total current per group, horizontal configuration, 40°C1 ATotal current per group, horizontal configuration1 ATotal current per group, vertical configuration1 AOutput current at signal "1", rated value0.5 AOutput delay of "0" to "1"max. 100 nsOutput delay of "1" to "0"max. 100 nsMinimum load current-Lamp load10 WParallel switching of outputs for redundant control of a loadnot possibleActuation of digital inputyesSwitching frequency with resistive loadmax. 40 kHzSwitching frequency with inductive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputs-Switching cycle of relay outputs-Switching cycle of relay outputs-Switching cycle of relay outputs-Status displaygreen LED per channelInterruptsno	Rated load voltage	DC 20.428.8 V
Total current per group, horizontal configuration, 60°C1 ATotal current per group, vertical configuration1 AOutput current at signal *1*, rated value0.5 AOutput delay of *0' to *1*max. 100 nsOutput delay of *1" to *0"max. 100 nsMinimum load current-Lamp load10 WParallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with inductive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus displaygreen LED per channelInterruptsno	Current consumption from load voltage L+ (without load)	15 mA
Total current per group, vertical configuration1 AOutput current at signal *1*, rated value0.5 AOutput delay of "0" to *1*max. 100 nsOutput delay of *1* to *0"max. 100 nsMinimum load current-Lamp load10 WParallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with resistive loadmax. 40 kHzSwitching frequency with inductive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus displaygreen LED per channelInterruptsno	Total current per group, horizontal configuration, 40°C	1 A
Output current at signal "1", rated value0.5 AOutput delay of "0" to "1"max. 100 nsOutput delay of "1" to "0"max. 100 nsMinimum load current-Lamp load10 WParallel switching of outputs for increased powernot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with inductive loadmax. 40 kHzSwitching frequency with inductive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputs-Switching capacity of contacts-Output data size60 ByteStatus displaygreen LED per channelInterruptsno	Total current per group, horizontal configuration, 60°C	1 A
Output delay of "0" to "1"max. 100 nsOutput delay of "1" to "0"max. 100 nsMinimum load current-Lamp load10 WParallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with resistive loadmax. 40 kHzSwitching frequency with inductive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus displaygreen LED per channelInterruptsno	Total current per group, vertical configuration	1 A
Output delay of "1" to "0"max. 100 nsMinimum load current-Lamp load10 WParallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with resistive loadmax. 40 kHzSwitching frequency with inductive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus information, alarms, diagnosticsgreen LED per channelInterruptsno	Output current at signal "1", rated value	0.5 A
Minimum load current - Lamp load 10 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. 40 kHz Switching frequency with inductive load max. 40 kHz Switching frequency on lamp load max. 40 kHz Internal limitation of inductive shut-off voltage L+ (-52 V) Short-circuit protection of output yes, electronic, and only highside Trigger level 2.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 60 Byte Status information, alarms, diagnostics green LED per channel Interrupts no	Output delay of "0" to "1"	max. 100 ns
Lamp load10 WParallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with resistive loadmax. 40 kHzSwitching frequency with inductive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus displaygreen LED per channelInterruptsno	Output delay of "1" to "0"	max. 100 ns
Parallel switching of outputs for redundant control of a loadnot possibleParallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with resistive loadmax. 40 kHzSwitching frequency with inductive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus displaygreen LED per channelInterruptsno	Minimum load current	-
Parallel switching of outputs for increased powernot possibleActuation of digital inputyesSwitching frequency with resistive loadmax. 40 kHzSwitching frequency with inductive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus information, alarms, diagnosticsgreen LED per channelInterruptsno	Lamp load	10 W
Actuation of digital inputyesSwitching frequency with resistive loadmax. 40 kHzSwitching frequency with inductive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus information, alarms, diagnosticsgreen LED per channelInterruptsno	Parallel switching of outputs for redundant control of a load	not possible
Switching frequency with resistive loadmax. 40 kHzSwitching frequency with inductive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus information, alarms, diagnosticsStatus displaygreen LED per channelInterruptsno	Parallel switching of outputs for increased power	not possible
Switching frequency with inductive loadmax. 40 kHzSwitching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus information, alarms, diagnosticsStatus displaygreen LED per channelInterruptsno	Actuation of digital input	yes
Switching frequency on lamp loadmax. 40 kHzInternal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus information, alarms, diagnosticsStatus displaygreen LED per channelInterruptsno	Switching frequency with resistive load	max. 40 kHz
Internal limitation of inductive shut-off voltageL+ (-52 V)Short-circuit protection of outputyes, electronic, and only highsideTrigger level2.5 ANumber of operating cycle of relay outputs-Switching capacity of contacts-Output data size60 ByteStatus information, alarms, diagnosticsStatus displaygreen LED per channelInterruptsno	Switching frequency with inductive load	max. 40 kHz
Short-circuit protection of output yes, electronic, and only highside Trigger level 2.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 60 Byte Status information, alarms, diagnostics green LED per channel Interrupts no	Switching frequency on lamp load	max. 40 kHz
Trigger level 2.5 A Number of operating cycle of relay outputs - Switching capacity of contacts - Output data size 60 Byte Status information, alarms, diagnostics green LED per channel Interrupts 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 60 Byte Status information, alarms, diagnostics - Status display green LED per channel Interrupts no	Short-circuit protection of output	yes, electronic, and only highside
Switching capacity of contacts - Output data size 60 Byte Status information, alarms, diagnostics - Status display green LED per channel Interrupts no	Trigger level	2.5 A
Output data size 60 Byte Status information, alarms, diagnostics Status display Interrupts no	Number of operating cycle of relay outputs	-
Status information, alarms, diagnostics Status display green LED per channel Interrupts no	Switching capacity of contacts	-
Status display green LED per channel Interrupts no	Output data size	60 Byte
Interrupts no	Status information, alarms, diagnostics	
	Status display	green LED per channel
Process alarm no	Interrupts	no
	Process alarm	no



no possible green LED
green LED
green LED
red LED
none
yes
DC 500 V
-
-
-
-
-
4
20 / 60
6
20
PPE / PPE GF10
Profile rail 35 mm
12.9 mm x 109 mm x 76.5 mm
60 g
0 °C to 60 °C
-25 °C to 70 °C
yes
yes