

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