

## Data sheet

SM 032 (032-1BB40)

## Technical data

Type	Order no.	032-1BB40
Seneral information	Туре	SM 032
Note	Module ID	0502 25D8
Note		
Features 2 outputs 12Bit Current 0(4)20 mA  Current consumption/power loss  Current consumption from backplane bus 85 mA  Power loss 0.8 W  Technical data analog outputs  Number of outputs 2 Cable length, shielded 200 m Rated load voltage DC 24 V  Reverse polarity protection of rated load voltage yes  Current consumption from load voltage L+ (without load) - Voltage output short-circuit protection - Max. capacitive load (current range) - Max. inductive load (current range) - Max. inductive load (current range) - Output voltage ranges - Destruction limit against external applied voltage - Current outputs yes Max. in load resistance (current range) 350 hm Max. inductive load (current range) 350 hm Max. inductive load (current range) 10 mH Typ. open circuit voltage current output 12 V Output current ranges 0 nm - 20 mA	General information	
Current consumption/power loss  Current consumption from backplane bus 85 mA  Power loss 0.8 W  Technical data analog outputs  Number of outputs 2  Cable length, shielded 200 m  Rated load voltage DC 24 V  Reverse polarity protection of rated load voltage yes  Current consumption from load voltage L+ (without load)  Voltage output short-circuit protection  Voltage outputs short-circuit protection  Voltage outputs short-circuit protection  Voltage outputs	Note	-
Current consumption/power loss Current consumption from backplane bus 85 mA Power loss 0.8 W  Technical data analog outputs  Number of outputs 2 Cable length, shielded 200 m Rated load voltage DC 24 V Reverse polarity protection of rated load voltage yes Current consumption from load voltage L+ (without load) - Voltage output short-circuit protection - Voltage output short-circuit protection - Voltage outputs - Min. load resistance (voltage range) - Max. capacitive load (current range) - Max. inductive load (current range) - Operational limit of voltage ranges - Destruction limit against external applied voltage - Current outputs yes Max. in load resistance (current range) 350 Ohm Max. inductive load (current range) 10 mH Typ. open circuit voltage current output 12 V Output current ranges 0	Features	
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Power loss	Current consumption/power loss	
Technical data analog outputs  Number of outputs 2 Cable length, shielded 200 m Rated load voltage DC 24 V Reverse polarity protection of rated load voltage yes Current consumption from load voltage L+ (without load) - Voltage output short-circuit protection - Voltage outputs - Min. load resistance (voltage range) - Max. capacitive load (current range) - Max. inductive load (current range) - Output voltage ranges - Output voltage ranges - Destruction limit of voltage ranges - Basic error limit voltage ranges - Destruction limit against external applied voltage - Current outputs yes Max. in load resistance (current range) 10 mH Typ. open circuit voltage current output 12 V Output voltage ranges Operational limit of urent ranges +/-0.4%+/-0.5% Basic error limit current ranges +/-0.2%+/-0.3% Destruction limit against external applied voltage max. 12V (30V for 1s) Settling time for ohmic load 0.25 ms Settling time for inductive load Substitute value can be applied Substitute value can be applied	Current consumption from backplane bus	85 mA
Number of outputs         2           Cable length, shielded         200 m           Rated load voltage         DC 24 V           Reverse polarity protection of rated load voltage         yes           Current consumption from load voltage L+ (without load)         -           Voltage output short-circuit protection         -           Voltage outputs         -           Min. load resistance (voltage range)         -           Max. capacitive load (current range)         -           Max. inductive load (current range)         -           Output voltage ranges         -           Operational limit of voltage ranges         -           Destruction limit against external applied voltage         -           Current outputs         yes           Max. in load resistance (current range)         350 Ohm           Max. in load resistance (current range)         10 mH           Typ. open circuit voltage current output         12 V           Output current ranges         0 mA +20 mA           +4 mA +20 mA         +4 mA +20 mA           +4 mA +20 mA         +4 mA +20 mA           +5 current imit current ranges         +70.2% +70.3%           Destruction limit against external applied voltage         max. 12V (30V for 1s)	Power loss	0.8 W
Number of outputs         2           Cable length, shielded         200 m           Rated load voltage         DC 24 V           Reverse polarity protection of rated load voltage         yes           Current consumption from load voltage L+ (without load)         -           Voltage output short-circuit protection         -           Voltage outputs         -           Min. load resistance (voltage range)         -           Max. capacitive load (current range)         -           Max. inductive load (current range)         -           Output voltage ranges         -           Operational limit of voltage ranges         -           Destruction limit against external applied voltage         -           Current outputs         yes           Max. in load resistance (current range)         350 Ohm           Max. in load resistance (current range)         10 mH           Typ. open circuit voltage current output         12 V           Output current ranges         0 mA +20 mA           +4 mA +20 mA         +4 mA +20 mA           +4 mA +20 mA         +4 mA +20 mA           +5 current imit current ranges         +70.2% +70.3%           Destruction limit against external applied voltage         max. 12V (30V for 1s)	Technical data analog outputs	
Cable length, shielded 200 m Rated load voltage DC 24 V Reverse polarity protection of rated load voltage yes Current consumption from load voltage L+ (without load) - Voltage output short-circuit protection - Voltage outputs Short-circuit protection - Min. load resistance (voltage range) - Max. capacitive load (current range) - Max. inductive load (current range) - Output voltage ranges - Operational limit of voltage ranges - Basic error limit voltage ranges - Destruction limit against external applied voltage - Current outputs yes Max. in load resistance (current range) 350 Ohm Max. inductive load (current range) 10 mH Typ. open circuit voltage current output 12 V Output current ranges 0 mA +20 mA +4 mB +20 mB  Basic error limit current ranges +2 max. +2 mB  Basic error limit current ranges -2 max. +2 mB  Basic error limit current ranges -2 mB  Basic error limit current ranges -2 mB +5 mB  Besit limit firm for capacitive load -2 mB +5 mB  Settling time for capacitive load -2 mS all channels  Settling time for inductive load no conversion time 2 mS all channels  Substitute value can be applied no		2
Rated load voltage DC 24 V  Reverse polarity protection of rated load voltage yes  Current consumption from load voltage L+ (without load) -  Voltage output short-circuit protection -  Voltage outputs -  Min. load resistance (voltage range) -  Max. capacitive load (current range) -  Output voltage ranges -  Operational limit of voltage ranges -  Basic error limit uotputs yes  Max. in load resistance (current range) -  Current outputs yes  Max. in load resistance (current range) -  Current outputs yes  Max. in load resistance (current range) -  Typ. open circuit voltage current output 12 V  Output current ranges 0 mAx +20 mA +4 mAx +20 mA +4 mAx +20 mA  Operational limit of current ranges +/-0.2% +/-0.5%  Basic error limit current ranges +/-0.2% +/-0.3%  Destruction limit against external applied voltage max. 12 V (30V for 1s)  Settling time for capacitive load -  Settling time for capacitive load -  Settling time for inductive load 1.5 ms  Resolution in bit 12  Conversion time 2 ms all channels  Substitute value can be applied	· · · · · · · · · · · · · · · · · · ·	
Reverse polarity protection of rated load voltage  Current consumption from load voltage L+ (without load)  Voltage output short-circuit protection  -  Voltage outputs  -  Min. load resistance (voltage range)  -  Max. capacitive load (current range)  -  Max. inductive load (current range)  -  Output voltage ranges  -  Operational limit of voltage ranges  -  Destruction limit against external applied voltage  -  Current outputs  Max. in load resistance (current range)  350 Ohm  Max. inductive load (current range)  10 mH  Typ. open circuit voltage current output  12 V  Output current ranges  -  Operational limit of current ranges  +/-0.4% +/-0.5%  Basic error limit current ranges  +/-0.2% +/-0.3%  Destruction limit against external applied voltage  max. 12V (30V for 1s)  Settling time for ohmic load  0.25 ms  Settling time for capacitive load  Settling time for inductive load  1.5 ms  Resolution in bit  12  Conversion time  2 ms all channels  Substitute value can be applied		
Current consumption from load voltage L+ (without load)  Voltage output short-circuit protection		
Voltage output short-circuit protection  Voltage outputs		·
Voltage outputs - Min. load resistance (voltage range) - Max. capacitive load (current range) - Output voltage ranges - Operational limit of voltage ranges - Operational limit of voltage ranges - Obestruction limit against external applied voltage - Current outputs yes Max. in load resistance (current range) 350 Ohm Max. inductive load (current range) 350 Ohm Max. inductive load (current range) 10 mH Typ. open circuit voltage current output 12 V Output current ranges 0 mA +20 mA +4 mA +20 mA +4 mA +20 mA Operational limit of current ranges +/-0.4% +/-0.5% Basic error limit current ranges +/-0.2% +/-0.3% Destruction limit against external applied voltage max. 12V (30V for 1s) Settling time for ohmic load 0.25 ms Settling time for capacitive load 1.5 ms Resolution in bit 12 Conversion time 2 ms all channels Substitute value can be applied		
Min. load resistance (voltage range)		
Max. inductive load (current range)  Output voltage ranges  Operational limit of voltage ranges  Basic error limit voltage ranges  Destruction limit against external applied voltage  Current outputs  yes  Max. in load resistance (current range)  Max. in load resistance (current range)  Max. inductive load (current range)  10 mH  Typ. open circuit voltage current output  12 V  Output current ranges  Ona+20 mA  +4 mA+20 mA  -4 mA+20 mA  Operational limit of current ranges  Ar-0.4%+/-0.5%  Basic error limit current ranges  Ar-0.2%+/-0.3%  Destruction limit against external applied voltage  max. 12V (30V for 1s)  Settling time for ohmic load  O.25 ms  Settling time for capacitive load  - Settling time for inductive load  1.5 ms  Resolution in bit  12  Conversion time  2 ms all channels  Substitute value can be applied		
Max. inductive load (current range)  Output voltage ranges  - Operational limit of voltage ranges  - Basic error limit voltage ranges  - Destruction limit against external applied voltage  - Current outputs  yes  Max. in load resistance (current range)  Max. inductive load (current range)  10 mH  Typ. open circuit voltage current output  12 V  Output current ranges  0 mA +20 mA +4 mA +20 mA  44 mA +20 mA  Operational limit of current ranges  +/-0.4% +/-0.5%  Basic error limit current ranges  +/-0.2% +/-0.3%  Destruction limit against external applied voltage  max. 12V (30V for 1s)  Settling time for ohmic load  0.25 ms  Settling time for capacitive load  - Settling time for inductive load  1.5 ms  Resolution in bit  12  Conversion time  2 ms all channels  Substitute value can be applied		
Output voltage ranges  Operational limit of voltage ranges  Basic error limit voltage ranges  - Destruction limit against external applied voltage  - Current outputs  Max. in load resistance (current range)  Max. inductive load (current range)  10 mH  Typ. open circuit voltage current output  12 V  Output current ranges  0 mA +20 mA +4 mA +20 mA +4 mA +20 mA  Operational limit of current ranges  4/-0.4% +/-0.5%  Basic error limit current ranges  +/-0.2% +/-0.3%  Destruction limit against external applied voltage  max. 12V (30V for 1s)  Settling time for ohmic load  0.25 ms  Settling time for capacitive load  1.5 ms  Resolution in bit  12  Conversion time  2 ms all channels  Substitute value can be applied		
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Basic error limit voltage ranges  - Destruction limit against external applied voltage  - Current outputs  Max. in load resistance (current range)  Max. inductive load (current range)  10 mH  Typ. open circuit voltage current output  12 V  Output current ranges  0 mA +20 mA +4 mA +20 mA  44 mA +20 mA  Operational limit of current ranges  +/-0.4% +/-0.5%  Basic error limit current ranges  +/-0.2% +/-0.3%  Destruction limit against external applied voltage  max. 12V (30V for 1s)  Settling time for ohmic load  0.25 ms  Settling time for capacitive load  5 ettling time for inductive load  1.5 ms  Resolution in bit  12  Conversion time  2 ms all channels  Substitute value can be applied		
Destruction limit against external applied voltage  Current outputs  Max. in load resistance (current range)  Max. inductive load (current range)  Typ. open circuit voltage current output  12 V  Output current ranges  Orma+20 mA +4 mA+20 mA  Operational limit of current ranges  +/-0.4%+/-0.5%  Basic error limit current ranges  +/-0.2%+/-0.3%  Destruction limit against external applied voltage  max. 12V (30V for 1s)  Settling time for capacitive load  Settling time for inductive load  1.5 ms  Resolution in bit  12  Conversion time  2 ms all channels  Substitute value can be applied		
Current outputs  Max. in load resistance (current range)  350 Ohm  Max. inductive load (current range)  10 mH  Typ. open circuit voltage current output  12 V  Output current ranges  0 mA +20 mA +4 mA +20 mA  44 mA +20 mA  Operational limit of current ranges  +/-0.4% +/-0.5%  Basic error limit current ranges  +/-0.2% +/-0.3%  Destruction limit against external applied voltage  max. 12V (30V for 1s)  Settling time for ohmic load  0.25 ms  Settling time for capacitive load  1.5 ms  Resolution in bit  12  Conversion time  2 ms all channels  Substitute value can be applied  no		
Max. in load resistance (current range)  Max. inductive load (current range)  Typ. open circuit voltage current output  12 V  Output current ranges  Operational limit of current ranges  +/-0.4% +/-0.5%  Basic error limit current ranges  +/-0.2% +/-0.3%  Destruction limit against external applied voltage  max. 12V (30V for 1s)  Settling time for ohmic load  0.25 ms  Settling time for capacitive load  - Settling time for inductive load  1.5 ms  Resolution in bit  12  Conversion time  2 ms all channels  Substitute value can be applied		
Max. inductive load (current range)  Typ. open circuit voltage current output  12 V  Output current ranges  0 mA +20 mA +4 mA +20 mA  +4 mA +20 mA  Operational limit of current ranges  +/-0.4% +/-0.5%  Basic error limit current ranges  +/-0.2% +/-0.3%  Destruction limit against external applied voltage  max. 12V (30V for 1s)  Settling time for ohmic load  0.25 ms  Settling time for capacitive load  -  Settling time for inductive load  1.5 ms  Resolution in bit  12  Conversion time  2 ms all channels  Substitute value can be applied	· · · · · · · · · · · · · · · · · · ·	<u> </u>
Typ. open circuit voltage current output  12 V  Output current ranges  0 mA +20 mA +4 mA +20 mA  Poperational limit of current ranges  +/-0.4% +/-0.5%  Basic error limit current ranges  +/-0.2% +/-0.3%  Destruction limit against external applied voltage  max. 12V (30V for 1s)  Settling time for ohmic load  0.25 ms  Settling time for capacitive load  - Settling time for inductive load  1.5 ms  Resolution in bit  12  Conversion time  2 ms all channels  Substitute value can be applied		
Output current ranges  0 mA +20 mA   +4 mA +20 mA  Operational limit of current ranges  +/-0.4% +/-0.5%  Basic error limit current ranges  +/-0.2% +/-0.3%  Destruction limit against external applied voltage  max. 12V (30V for 1s)  Settling time for ohmic load  0.25 ms  Settling time for capacitive load  - Settling time for inductive load  1.5 ms  Resolution in bit  12  Conversion time  2 ms all channels  Substitute value can be applied  no		
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Basic error limit current ranges +/-0.2% +/-0.3%  Destruction limit against external applied voltage max. 12V (30V for 1s)  Settling time for ohmic load 0.25 ms  Settling time for capacitive load -  Settling time for inductive load 1.5 ms  Resolution in bit 12  Conversion time 2 ms all channels  Substitute value can be applied no		
Destruction limit against external applied voltage max. 12V (30V for 1s)  Settling time for ohmic load 0.25 ms  Settling time for capacitive load -  Settling time for inductive load 1.5 ms  Resolution in bit 12  Conversion time 2 ms all channels  Substitute value can be applied no	Operational limit of current ranges	+/-0.4% +/-0.5%
Settling time for ohmic load  O.25 ms  Settling time for capacitive load  Settling time for inductive load  1.5 ms  Resolution in bit  12  Conversion time  2 ms all channels  Substitute value can be applied  no	Basic error limit current ranges	+/-0.2% +/-0.3%
Settling time for capacitive load - Settling time for inductive load 1.5 ms Resolution in bit 12 Conversion time 2 ms all channels Substitute value can be applied no	Destruction limit against external applied voltage	max. 12V (30V for 1s)
Settling time for inductive load  1.5 ms  Resolution in bit  12  Conversion time  2 ms all channels  Substitute value can be applied  no	Settling time for ohmic load	0.25 ms
Resolution in bit 12 Conversion time 2 ms all channels Substitute value can be applied no	Settling time for capacitive load	-
Conversion time 2 ms all channels  Substitute value can be applied no	Settling time for inductive load	1.5 ms
Substitute value can be applied no	Resolution in bit	12
	Conversion time	2 ms all channels
Output data size 4 Byte	Substitute value can be applied	no
	Output data size	4 Byte



## Status information, alarms, diagnostics

Status information, alarms, diagnostics	
Status display	yes
Interrupts	no
Process alarm	no
Diagnostic interrupt	no
Diagnostic functions	yes
Diagnostics information read-out	possible
Supply voltage display	green LED
Group error display	red LED
Channel error display	red LED per channel
Isolation	
Between channels	-
Between channels of groups to	-
Between channels and backplane bus	yes
Between channels and power supply	yes
Max. potential difference between circuits	-
Max. potential difference between inputs (Ucm)	-
Max. potential difference between Mana and Mintern (Uiso)	DC 75 V/ AC 50 V
Max. potential difference between inputs and Mana (Ucm)	-
Max. potential difference between inputs and Mintern (Uiso)	-
Max. potential difference between Mintern and outputs	-
Insulation tested with	DC 500 V
Datasizes	
Input bytes	0
Output bytes	4
Parameter bytes	8
Diagnostic bytes	20
Housing	
Material	PPE / PPE GF10
Mounting	Profile rail 35 mm
Mechanical data	
Dimensions (WxHxD)	12.9 mm x 109 mm x 76.5 mm
Weight	60 g
Environmental conditions	
Operating temperature	0 °C to 60 °C
Storage temperature	-25 °C to 70 °C
Certifications	
UL certification	yes
KC certification	yes
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