

Data sheet

FM 054 - Motion module (054-1DA00)

Technical data

Order no.	054-1DA00
Туре	FM 054 - Motion module
Module ID	0983 6800
General information	
Note	
Features	1-channel RS422 with feedback 4 configurable in-/outputs I/O1 I/O4 Operating modes: CW/CCW, PLS/DIR, ENC/SIM
Current consumption/power loss	
Current consumption from backplane bus	50 mA
Power loss	1 W
Technical data digital inputs	
Number of inputs	4
Cable length, shielded	1000 m
Cable length, unshielded	600 m
Rated load voltage	-
Current consumption from load voltage L+ (without load)	
Rated value	DC 20.428.8 V
Input voltage for signal "0"	DC 05 V
Input voltage for signal "1"	DC 1128.8 V
Input voltage hysteresis	-
Signal logic input	-
Frequency range	-
Input resistance	-
Input current for signal "1"	3 mA
Connection of Two-Wire-BEROs possible	yes
Max. permissible BERO quiescent current	1.5 mA
Input delay of "0" to "1"	1.5 ms
Input delay of "1" to "0"	1.5 ms
Input filter delay	-
Number of simultaneously utilizable inputs horizontal configuration	4
Number of simultaneously utilizable inputs vertical configuration	4
Input characteristic curve	IEC 61131-2, type 3
Initial data size	4 Bit
Technical data digital outputs	
Number of outputs	4
Cable length, shielded	1000 m
Cable length, unshielded	600 m
Rated load voltage	DC 20.428.8 V
Reverse polarity protection of rated load voltage	-
Current consumption from load voltage L+ (without load)	-
Output voltage signal "1" at min. current	L+ (-0 V)

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Output voltage signal "1" at max. current	L+ (-125 mV)
Output current at signal "1", rated value	500 mA
Signal logic output	-
Output current at signal "0" max. (residual current)	200 μΑ
Output delay of "0" to "1"	1.5 ms
Output delay of "1" to "0"	1.5 ms
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. 300 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+ (-45 V)
Short-circuit protection of output	yes, electronic
Trigger level	1 A
Number of operating cycle of relay outputs	-
Switching capacity of contacts	-
Output data size	-
Status information, alarms, diagnostics	
Status display	green LED per channel
Interrupts	yes, parameterizable
Process alarm	no
Diagnostic interrupt	yes, parameterizable
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
Datasizes	
Input bytes	36
Output bytes	36
Parameter bytes	56
Diagnostic bytes	20
Isolation	
Between channels	
Between channels of groups to	-
Between channels and backplane bus	yes
Between areas	-
Max. potential difference between inputs and Mintern (Uiso)	DC 75 V/ AC 50 V
Insulation tested with	AC 500 V
Technical data positioning module	
Number of channels	1
Cable length (motor supply)	-
Input voltage (rated value)	DC 24 V
Input voltage (permitted range)	DC 20.428.8 V
Motor current	-

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Cable length (motor)	Derating	-
Short-circuit protection yes	Cable length (motor)	-
Brake chopper -	Power stage	RS422
PWM frequency	Short-circuit protection	yes
Pulse train frequency 1 MHz Micro steps - Steps per rotation - Type of encoder A/B phase 24V single ended Cable length (encoder) - Encoder frequency 100 kHz Encoder resolution (internal) 24 Bit Control type open loop Temperature sensor controller yes Temperature sensor controller yes Temperature sensor charder - Operating modes position functions - Homing via homing switch yes Positioning via torque - Positioning with encoder yes Positioning with encoder - Speed control yes Torque control - Housing PPE / PPE GF10 Mounting PPE / PPE GF10 Mounting PPE / PPE GF10 Mounting Profile rail 35 mm Mechanical data Dimensions (WxHxD) Dimensions (WxHxD) 12.9 mm x 109 mm x 76.5 mm Net weight 61 g Weight	Brake chopper	-
Micro steps -	PWM frequency	-
Steps per rotation -	Pulse train frequency	1 MHz
Type of encoder A/B phase 24V single ended Cable length (encoder) - Encoder frequency 100 kHz Encoder resolution (internal) 24 Bit Control type open loop Temperature sensor controller yes Temperature sensor H-bridge - Operating modes position functions Homing via homing switch yes Positioning via torque - Positioning with encoder yes Speed control yes Torque control yes Material PPE / PPE GF10 Mounting Profile rail 35 mm Mechanical data Dimensions (WxHxD) 12.9 mm x 109 mm x 76.5 mm Net weight 61 g Weight including accessories 61 g Environmental conditions UL certification UL certification yes KC certification UL certification 100 kHz 24 Bit 100 kHz 24 Bit 100 kHz 25 Bit 100 kHz 26 Bit 100 kHz 27 Bit 100 kHz 28 Bit 100 kHz 29 Bit 100 kHz 29 Bit 100 kHz 24 Bit	Micro steps	
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Temperature sensor controller Temperature sensor H-bridge Operating modes position functions Homing via homing switch Positioning via torque - Positioning without encoder Positioning with encoder Positioning with encoder Speed control Torque control Housing Material PPE / PPE GF10 Mounting Profile rail 35 mm Mechanical data Dimensions (WxHxD) 12.9 mm x 109 mm x 76.5 mm Net weight 61 g Gross weight 76 g Environmental conditions Operating temperature 0 °C to 60 °C Storage temperature -25 °C to 70 °C Certification UL certification yes UKCA certification yes UKCA certification yes	Encoder resolution (internal)	24 Bit
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Operating modes position functions Homing via homing switch Positioning wit orque Positioning without encoder Positioning with encoder Positioning with encoder Speed control Torque control Housing Material PPE / PPE GF10 Mounting Profile rail 35 mm Mechanical data Dimensions (WxHxD) 12.9 mm x 109 mm x 76.5 mm Net weight 61 g Weight including accessories 61 g Gross weight 76 g Environmental conditions Operating temperature 0 °C to 60 °C Storage temperature -25 °C to 70 °C Certification UL certification yes UKCA certification yes	Temperature sensor controller	yes
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Positioning with encoder	Positioning via torque	-
Speed control Torque control	Positioning without encoder	yes
Torque control Housing Material PPE / PPE GF10 Mounting Profile rail 35 mm Mechanical data Dimensions (WxHxD) 12.9 mm x 109 mm x 76.5 mm Net weight 61 g Weight including accessories 61 g Gross weight 76 g Environmental conditions Operating temperature 0 °C to 60 °C Storage temperature -25 °C to 70 °C Certifications UL certification yes KC certification yes UKCA certification yes	Positioning with encoder	-
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Storage temperature -25 °C to 70 °C Certifications UL certification yes KC certification yes UKCA certification yes	Environmental conditions	
Certifications UL certification yes KC certification yes UKCA certification yes	Operating temperature	0 °C to 60 °C
UL certification yes KC certification yes UKCA certification yes	Storage temperature	-25 °C to 70 °C
KC certification yes UKCA certification yes	Certifications	
UKCA certification yes	UL certification	yes
*	KC certification	yes
ChinaRoHS certification yes	UKCA certification	yes
	ChinaRoHS certification	yes