# SOLAR GUARDIAN KIT edition 00 : data 23/01/2025 BREMAS BETTER SWITCHES KA1002005M0AEC **SOLAR GUARDIAN KIT FOR 5 INPUTS** Kit for DIN rail for vertical or horizontal mounting supplied as spare parts N Ò 0 t WIRING

+

IN +1 IN -1 IN +2 IN -2

FROM PV

FB1

DC 24V

GND

50/60Hz 100+240V

+

FROMPV

+

IN IN +3 -3

+ -+

FROM PV FROM PV

IN IN +4 -4

IN IN +5 -5

FROM PV

DIAGRAM

+

+2

OUT OUT OUT OUT OUT OUT OUT OUT OU

+4 TO TO TO TO TO TO TO INVERTER INVERTER INVERTER INVERTER

+3

Bremas Ersce S.p.A.

CE

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ISO 9001 Certified Quality System

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+1

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Static

window

## DM100205M0AEDSC

#### **Disconnect switch**

Technical data according to IEC 60947-3:2021					
Utilization category			PV1 (DC-21B)	PV2	
Rated operational voltage	Ue	Vdc	1100	1100	
Rated operational current	le	Α	12	5	
Rated operational voltage (second rating)	Ue	Vdc	1000	1000	
Rated operational current (second rating)	le	A	20	10	
Rated operational voltage (third rating)	Ue	Vdc	750	750	
Rated operational current (third rating)	le	A	32	18	
Rated operational voltage (fourth rating)	Ue	Vdc	700	700	
Rated operational current (fourth rating)	le	Α	40	20	
Rated operational voltage (fifth rating)	Ue	Vdc	500	-	
Rated operational current (fifth rating)	le	A	50	-	
Rated operational voltage (sixth rating)	Ue	Vdc	-	-	
Rated operational current (sixth rating)	le	Α	-	-	
Rated thermal current	lth	A	50		
DC Poles		Nr.	10		
Rated conditional short-circuit current		kA	5		
Rated insulation voltage	Ui	V dc	1500		
Rated impulse withstand voltage	Uimp	kV	8		
Rated short-time withstand current (1 s)	lcw	Α	780		
Rated short-circuit making capacity	lcm	kA	1,4		
Power loss per layer at 20 A / 50 A		W	0,2/1,25		
Maximum size of the fuse for the short-circuit protection	gPV	A	50		
Mechanical characteristics	5				
Type of mounting		Nr.	For direct operation With pre-mounted status indicator 12		
Terminal screws orientation			Head		
External metal parts (screws, shaft)			Stainless		
		mm <sup>2</sup>	2x 6		
Cross-section of flexible/solid wires	Max.	AWG	2x 1	0	
		mm <sup>2</sup>	1x 1	6	
Cross-section of wires with fork lug	Max.	AWG	1x 6	5	
Connection cable length from PCB to motor (+/-)	Length	mm	~250	)	
and connection cable length of NO-NC auxiliary switches	Section	mm <sup>2</sup> / AWG	0,5/	20	
	Note		Not sup	plied	
	solid wire/stranded	mm <sup>2</sup>	0,129-1,31		
FB1 and FB2 signal connection cables	wire - min. / max.	AWG	26-16		
	maximum length allowed	m	50		
Minimum required fine wire cross-section: IEC 60947-1, table		I			
Terminal screws type			M4 – F	M4 – PH2	
Terminal screws tightening torque		Nm	1,7±10%		
Net weight		g	620		
Protection degree IEC 529 EN 60529		0	520		
To the terminal			IP2	0	
Ambient conditions			11 21	<u> </u>	
			0		
Pollution degree ins. Operational ambient temperature		°C	2		
		<u>ာ</u> သ	-30 ÷ +50		
Storage ambient temperature		- U	-30 ÷ +85 90-100% RH at +55 °C		
Damp heat test IEC 60068-2-30			90-100% RH	dl 700 °C	

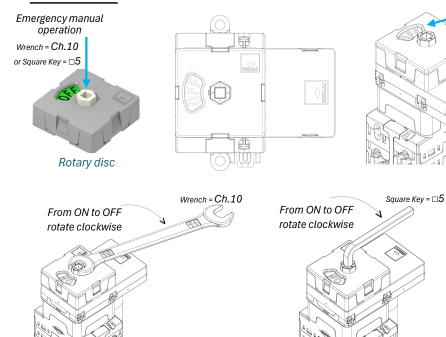
## Motor driven actuator

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Motor characteristics					
Rated operational voltage	Ue	Vdc	24 ±5%		
Rated operational current	le	A	0,4		
Stall current	Max.	A	1,4		
Free-load current		A	0,10		
Free-load speed	Max.	rpm	20 ±3		
Rated load current		A	0,15		
Rated load speed		rpm	17,6 ±2		
Output power at Max. efficiency		W	1,55		
Terminal type			Solder (supplied with wiring)		
Pre-soldered cables length		mm	300		
Protection degree to the terminals			IP00*		
Operating features					
Rotation direction		Clockwise (90deg)			
Position (status indicator)		Rotary disc with static window at 09:00 o'clock			

\* Pre soldered wiring with heat-shrink sheath

## Status indicator



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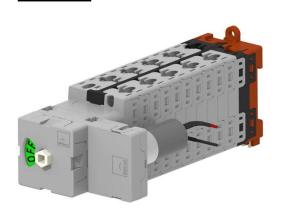


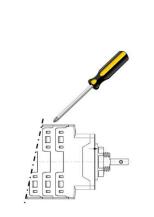
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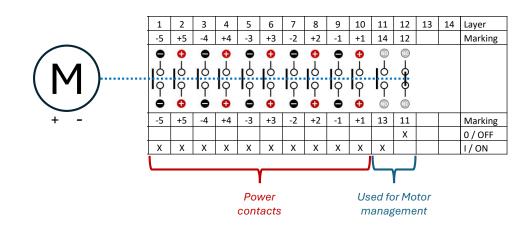
Product image

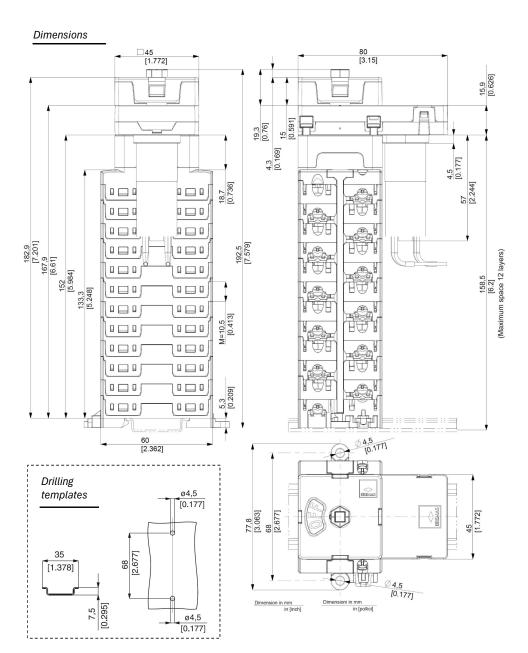




Screwdriver orientation for terminal fixing

### Electrical Diagram





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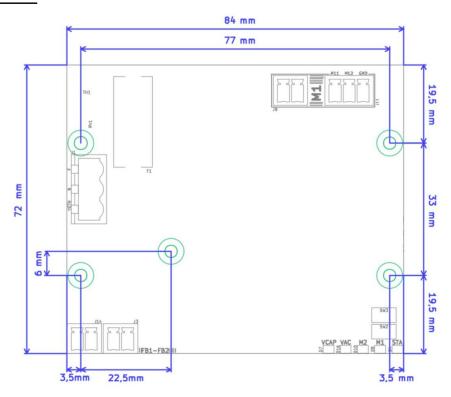
## FSEB1M

**Electronic board** 

Product image



Dimensions



#### Technical data

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AC supply			
Voltage range		V ac	100240
Rated operational voltage		V ac	230 ±5%
Frequency range		Hz	50/60
Rated operational current (stand-by)		mA	≅ 20
Rated operational current (peak)	Max.	mA	≅ 400
Overvoltage protection		V ac	275 (varistor)
Functional data			
Capacitors charging time	Max.	S	÷18
FB terminals (J3-J14) – Electrical parameters	Max.		24 Vdc – 100 mA
Temperature for automatic shutdown		°C	+100
Mechanical characteristics			
Dimensions (L x H x P)		mm	84 x 72 x 25
Net weight		g	76 (FSEB1M) – 81 (FSEB2M)
	Max	mm <sup>2</sup>	2
Cross-section of flexible/solid wires (J1 terminal)		AWG	14
Cross section of flouible (solid using (10, 10, 10, 111, 110, 114 terminals)	Max.	mm²	1,3
Cross-section of flexible/solid wires (J2-J3-J9-J11-J12-J14 terminals)		AWG	16
Ambient conditions			
Operational ambient temperature		°C	-30 ÷ +50
Storage ambient temperature		°C	-30 ÷ +85
Humidity			90-100% RH at +55 °C

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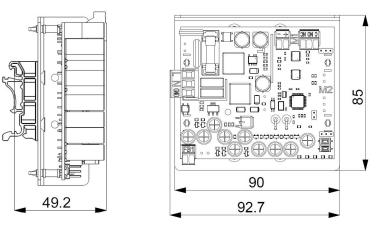


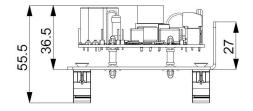
#### **DIN support**

Horizontal mounting



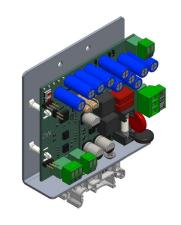


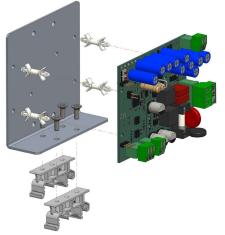




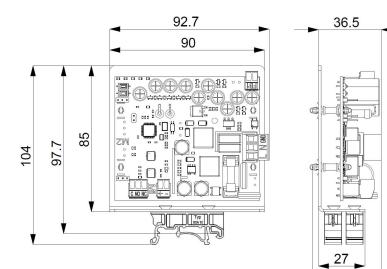
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