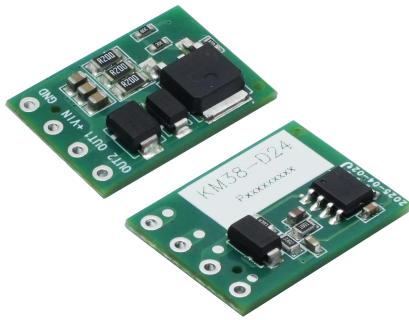


9A/38A Magnetolectric Controller



FEATURE

- Wide-voltage energy-saving dedicated control module for contactors
- Wide voltage input range: 10-36VDC
- Operating temperature range: -40°C to +70°C
- 2W low input power
- High reliability
- Maximum operating frequency: 3600 times/h
- Turn-off delay time less than 60ms
- Customization available

KM9(38)-D24 is a control module specifically designed by Mornsun for contactors. It requires only one coil type and is compatible with multiple contactor models. With advantages like low power consumption, compact size, cost-effectiveness, high reliability, and strong anti-tripping capability, this product ensures safe and reliable operation, stable contact engagement, fast response, and wide input voltage range, no short-circuit ring needed. Widely used in energy-saving retrofits for various contactors and next-gen wide-voltage input contactors, it is compatible with most 9A & 38A frame contactors on the market for optimized upgrades.

Selection Guide

Part No.	Input Voltage	Contactor Rated Operational Current (A)	Control Voltage Range
KM9-D24	12VDC	9	10-36VDC
KM38-D24		38	

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage Range	DC input	10	12	36	VDC
Input Power	12VDC	--	--	2	W

Operating Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Minimum Operating Voltage	Full voltage, full temperature range	--	--	10	VDC
Release Voltage		--	--	7	
Operating Current	12VDC input, full temperature range	KM9-D24	3.3	4	A
		KM38-D24	4.4	5	
Hold-in Current	12VDC input, full temperature range	0.3	0.6	--	
Start-up Delay Time	Full voltage, full temperature range	--	35	60	ms
Turn-off Delay Time		--	50	100	
Maximum Operating Frequency	Ta=25°C, 36VDC	--	--	3600	times/h
	Ta=70°C, 36VDC				

General Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Operating Temperature		-40	--	+70	°C
Storage Temperature		-40	--	+85	
Storage Humidity		--	--	95	%RH
Safety Class		CLASS II			
MTBF	MIL-HDBK-217F@25°C	≥300,000 h			

Mechanical Specifications

Dimension	22.00 x 16.00 x 6.60 mm
Weight	1.8g(Typ.)
Cooling Method	Free air convection

Electromagnetic Compatibility (EMC)

EMI	CE	CISPR32/EN55032	CLASS A	
	RE	CISPR32/EN55032	CLASS A	
EMS	ESD	IEC/EN61000-4-2	Contact ±4kV/ Air ±8kV	Perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m	Perf. Criteria A
	EFT	IEC/EN61000-4-4	± 2kV	Perf. Criteria A
	Surge	IEC/EN61000-4-5	line to line ±1kV	Perf. Criteria A
	CS	IEC/EN61000-4-6	10Vr.m.s	Perf. Criteria A
	Voltage dips*	IEC/EN61000-4-29	70%Un 0.5s	Perf. Criteria A

Note: *Un is the maximum input nominal voltage.

Design Reference

1. Typical application

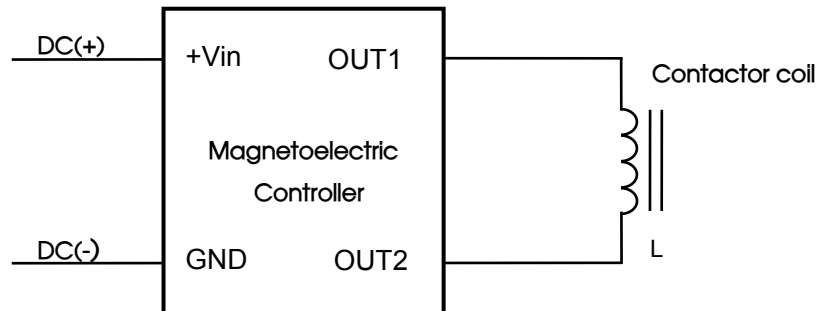


Fig. 1 Typical application

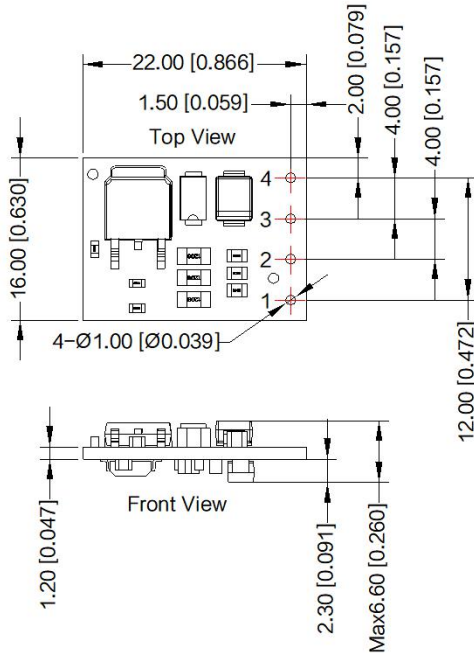
Recommended coil parameter table:

Part No.	Air-cored Inductance (mH)	Release Inductance (mH)	Operating Inductance (mH)	Coil Resistance (Ω)	Coil Diameter (mm)	Coil Turns (T)
KM9	1.6	3.1	18	1.8	0.55	270
KM38	1.14	4.2	8.3	1.3	0.6	250

Note:
 1. Hot plug is unavailable;
 2. Air-cored inductance, Release inductance and Operating inductance are measured under the condition of 10kHz/0.1V, and the above data are measured at 25°C.

Dimensions and Recommended Layout

THIRD ANGLE PROJECTION 



Pin-Out	
Pin	Mark
1	GND
2	+Vin
3	OUT1
4	OUT2

Note:
Unit: mm[inch]
General tolerances: $\pm 0.50[\pm 0.02]$
The layout of the device is for reference only,
please refer to the actual product

- Note:
1. For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58060029;
 2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of $T_a=25^\circ\text{C}$, humidity<75%RH with nominal input voltage;
 3. All index testing methods in this datasheet are based on company corporate standards;
 4. We can provide product customization service, please contact our technicians directly for specific information;
 5. Products are related to laws and regulations: see "Features" and "EMC";
 6. The Magnetolectric Controller should be considered as a part of the contactor, all EMC tests need to be confirmed with the contactor. For guidance on EMC test operation, please consult our FAE;
 7. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

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