

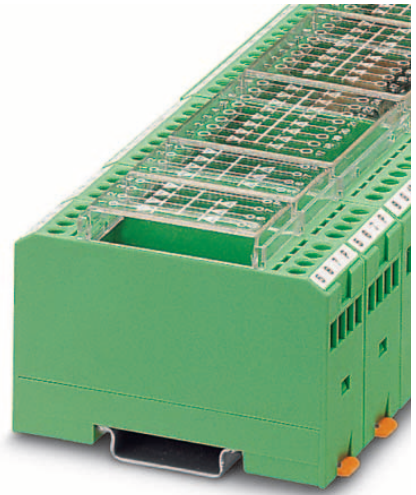
# EMG ...-DIO ...

## Diode modules

### INTERFACE

Data sheet  
101170\_en\_02

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## 1 Description

Diode circuits perform various tasks in electrical, but especially electronic control systems, such as:

- Electrical decoupling of messages in fault signaling systems  
or
- As spark-suppression diodes for limiting surge voltages of inductive loads, such as solenoid valves, DC relays or similar

In order to meet these requirements, diode modules are available as "diode gates" with common negative and positive polarity or as individual diodes.



#### NOTE:

Please note that there is no isolation between the individual diode paths within a module.



Make sure you always use the latest documentation.  
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This data sheet is valid for all products listed on the following page:

## 2 Ordering data

### Diode module, can be individually wired

Description	Housing width	Type	Order No.	Pcs./Pkt.
4 diodes, type 1 N 4007	22.5 mm	EMG 22-DIO 4E	2950048	10
4 diodes, type 1 N 5408	22.5 mm	EMG 22-DIO 4E-1N5408	2952790	10
8 diodes, type 1 N 4007	45 mm	EMG 45-DIO 8E	2950103	5
8 diodes, type 1 N 5408	45 mm	EMG 45-DIO 8E-1N5408	2949389	5
17 diodes, type 1 N 4007	90 mm	EMG 90-DIO 17E	2954895	5

### Diode module, positive polarity (common cathode)

Description	Housing width	Type	Order No.	Pcs./Pkt.
4 diodes, type 1 N 5408	22.5 mm	EMG 22-DIO 4P-1N5408	2952198	10
7 diodes, type 1 N 4007	22.5 mm	EMG 22-DIO 7P	2950064	10
8 diodes, type 1 N 5408	45 mm	EMG 45-DIO 8P-1N5408	2954879	5
14 diodes, type 1 N 4007	45 mm	EMG 45-DIO14P	2950116	5
32 diodes, type 1 N 4007	90 mm	EMG 90-DIO 32P	2954918	5

### Diode module, negative polarity (common anode)

Description	Housing width	Type	Order No.	Pcs./Pkt.
4 diodes, type 1 N 5408	22.5 mm	EMG 22-DIO 4M-1N5408	2952211	10
7 diodes, type 1 N 4007	22.5 mm	EMG 22-DIO 7M	2950077	10
8 diodes, type 1 N 5408	45 mm	EMG 45-DIO 8M-1N5408	2954882	5
14 diodes, type 1 N 4007	45 mm	EMG 45-DIO14M	2950129	5
32 diodes, type 1 N 4007	90 mm	EMG 90-DIO 32M	2954934	5

### Accessories

Description	Type	Order No.	Pcs./Pkt.
Device marking label	EMG-GKS 12	2947035	50

## 3 Technical data

### General data

Ambient temperature range	-20°C ... +50°C
Rated insulation voltage according to EN 50178	300 V
Pollution degree according to EN 50178	2
Surge voltage category according to EN 50178	3, basic insulation
Mounting position	Any
Installation	Can be aligned without spacing
Height	55 mm
Length	75 mm

### Connection data

Conductor cross-section, solid	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross-section, stranded	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section, AWG	24 - 12
Stripping length	8 mm
Connection method	Screw connection

Diode data for diode type 1 N 4007	EMG 22-DIO 4E, EMG 45-DIO 8E, EMG 90-DIO 17E, EMG 22-DIO 7P, EMG 22-DIO 7M	EMG 45-DIO14P, EMG 45-DIO14M, EMG 90-DIO 32P, EMG 90-DIO 32M
Maximum operating voltage $U_{max}$	250 V AC	250 V AC
Peak reverse voltage per diode	1300 V	1300 V
Reverse current per diode	5 $\mu$ A	5 $\mu$ A
Conducting-state voltage per diode	0.8 V, approximately	0.8 V, approximately
Conducting-state current per diode		
With single load	0.7 A	0.7 A
With simultaneous load	0.5 A	0.2 A

Diode data for diode type 1 N 5408	EMG 22-DIO 4E-1N5408, EMG 22-DIO 4P-1N5408, EMG 22-DIO 4M-1N5408	EMG 45-DIO 8E-1N5408, EMG 45-DIO 8P-1N5408, EMG 45-DIO 8M-1N5408
Maximum operating voltage $U_{max}$	250 V AC	250 V AC
Peak reverse voltage per diode	1000 V	1000 V
Reverse current per diode	10 $\mu$ A	10 $\mu$ A
Conducting-state voltage per diode	0.8 V, approximately	0.8 V, approximately
Conducting-state current per diode		
With single load	1.5 A	1.5 A
With simultaneous load	1 A	0.3 A

### Conformance/approvals

Conformance CE-compliant

### Conformance with Low Voltage Directive (LVD) 2006/95/EC

Electronic equipment according to EN 50178

## 4 Circuit diagram

### 4.1 Diode module, can be individually wired

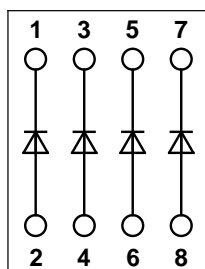


Figure 1 E.g., EMG 22-DIO 4E

### 4.3 Diode module, negative polarity

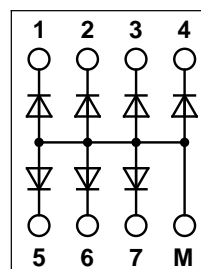


Figure 3 E.g., EMG 22-DIO 7M

### 4.2 Diode module, positive polarity

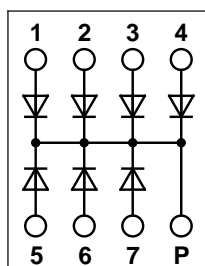


Figure 2 E.g., EMG 22-DIO 7P