

Plug-in solid state relay

KDM 3-24
**DC Motor control relay with brake function, DC 24 V
1 high side switch and 1 N-channel brake switch**
Type: KDM 3-24/DC12-24V R

Solid state relay for DC-motor control and similar applications

1 high side + 1 N channel transistor switch

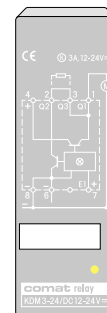
All overload and short circuit protected

Adjustable or disabled brake function by

external resistor or jumper

LED status indicator

Pluggable module



Maximum load	3 A / 32 V
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Outputs	Drive	Brake
Type: Power MOS FET	High side	N-channel
Max. switching current	3 A	3 A, 10 sec
Max. continuous current	3 A (5 A) ¹⁾	2 A
Max. inrush current, 1 sec ²⁾	20 A	7
Switching voltage range	10 ... 32 V	10 ... 32 V
Max. Load	100 W	65 W
Thermal overload protection ²⁾	self restoring	self restoring
Over current limiting ²⁾	typ. 35 A	7 ... 14 A
Clamp voltage	typ. 58 V	60 ... 70 V
Max. inductive switch-off energy ²⁾	1 Ws single pulse	0.4 Ws single pulse
ON resistance @ 25 °C	≤ 50 mΩ	≤ 100 mΩ
Leakage current	≤ 10 μA	

¹⁾ Repetitive operation: When the ratio $t_{\text{pulse}} / t_{\text{cycle}}$ is a low value then the current can be increased up to 5 A @ $T_A \leq 50$ °C.

²⁾ Not for continuous repetitive operation

Control input $V_N =$	DC 12-24 V
Operating voltage range	9 ... 28 V
Release voltage	≤ 2 V
Typical input current @ 12 / 24 V	2 / 6.5 mA
Power consumption @ 12 / 24 V	25 / 160 mW
Polarity reversal	protected

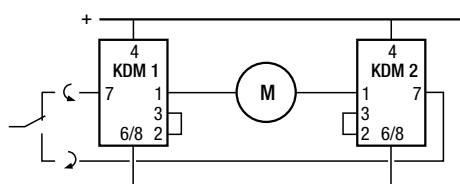
General Specifications	
Ambient temperature storage/operation	-40 ... +85°C / -25 ... +60°C
ON delay	1 ms
Release time	1 ms
Ingress protection degree	IP 40 when the device is plugged in
Housing material	Lexan
Weight	27 g

Standard types	
DC 12-24	KDM3-24/DC12-24V R

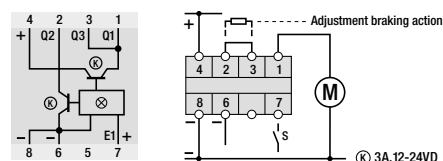
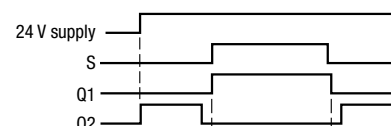
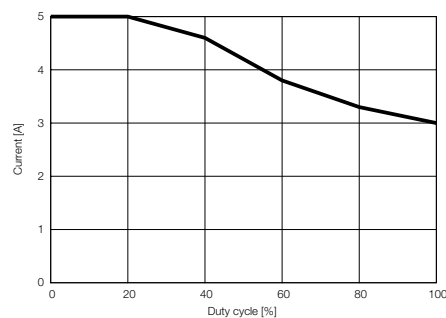
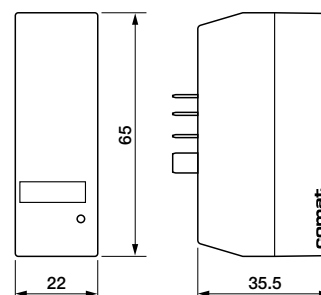
Accessories	
Socket:	S7-C

Application example

Four quadrant (forward / reversed) motor control



Operating with brake resistors (on 2–3) is not recommended in this application.

Connection diagram

Function diagramm

Output current vs. duty cycle

Dimensions [mm]

Technical approvals, conformities
