CHDR1 Series 50A DC Relay

Churod Electronics

Features

- Outline dimension：38mm×29.8mm×33.6mm
- 1A（SPDM），GAP＞3.0mm
- IEC61810，IEC60664，RoHS，REACH SvHC compliance
- Epoxy resin seal， Environmental protection category RTII
- 50A 85℃ carrying capacity
- PCB mounting type

Application

EV

Precharge circuit control of inverter

Industrial DC control unit

AGV

Release voltage @ 23℃

Rated voltage (VDC)	Rated power (W)	Rated current (mA)	Coil resistance (Ω±10%)	Operate voltage (VDC)	Release voltage (VDC)
9	2	220	42.5	≤6.75	≥0.45
12	2	160	76	≤9	≥0.6
18	2	110	170	≤13.5	≥0.9
24	2	80	303	≤18	≥1.2
36	2	55	682	≤27	≥1.8
48	2	40	1212	≤36	≥2.4
60	2	33	1894	≤45	≥3.0
110	2	18	6368	≤82.5	≥5.5

Notes：The above values are the initial at 23℃.

Contact parameters

Contact form	1A(SPDM)
Contact material	AnSnO2
Initial voltage drop	≤60 mV at 50 A
Rated current (Resistive Load)	50 A （@10mm^2）
Rated switching voltage	500 Vd.c.
Minimum applicable load	48Vd.c.，100mA
Max switching voltage	500 Vd.c.
Rated switching current	25kW（500 Vd.c.）

Durability

Electrical life (Resistive Load)	300次（500 Vd.c. 50 A） 3000 次（500 Vd.c. 40 A）
Current tolerance	50A, continuous
	60A, 1.0 h
	80A,20 min
	100A, 30 s
	150A, 10 s
	300A, 0.6 s
Mechanical life	200000次，ON:OFF：0.2s：0.2s

Notes：Electrical life at 23℃, ON：OFF=1s：9s。During the test, the coil was not connected to the surge suppression device. If the coil parallel diode is used, the release time of the relay will be will be lengthened and the life will be reduced.

Other parameters

Dielectric strength	between open contacts	2500 Va.c. 50/60 Hz 1 min
	between coil to contacts	3500 Va.c. 50/60 Hz 1 min
Insulation resistance		1000 MΩ at 1000 Vd.c.
Operate time（at rated voltage）		≤25ms
Release time（at rated voltage）		≤10ms
Vibration resistance	Destruction	10Hz~ 500Hz.，49m/S2
	Functional	10Hz~ 500Hz.，49m/S2
Shock resistance	Destruction	490m/s2
	Functional	ON：196m/s2 OFF：98m/s2
Ambient temperature		—40℃~85℃(No dew, No ice)
Relative humidity		5% RH ~85% RH
Terminal style		PCB terminal
Installation		PCB terminal
Environmental protection category		RTII
Weight		70g
Overall dimensions		38mm×29.8mm×33.6mm

Notes：The above values are conservative at 23℃.

Selection of reference

	CHDR1	-1	12	DO	50	,XXX

1.Product code
CHDR1 series

2.Contact form
1=1 Form A(SPDM)

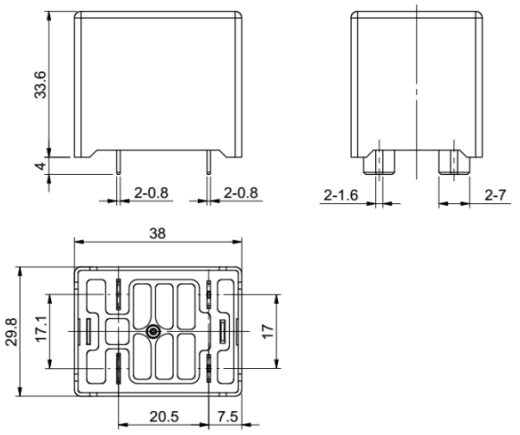
3.Coil rated voltage
09,12,18,24,36,48,60,110VDC

4.Rated switching voltage
DO = 500VDC

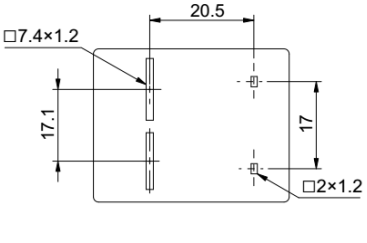
5.Rated switching current
50 =50A

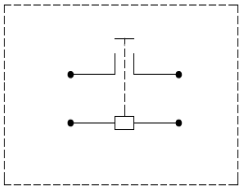
6.Additional numbers and /or letters
000-999，aaa-zzz or blank，which does not represent electrical changes, only for specific customer requirements

Outline dimension



Mounting hole dimensions and wiring diagram





Notes: No dimensional tolerance:
size ≤10mm; tolerance : ±0.2mm;
size 10~50mm; tolerance : ± 0.3mm;
size >50mm; tolerance : ±0.4mm 。

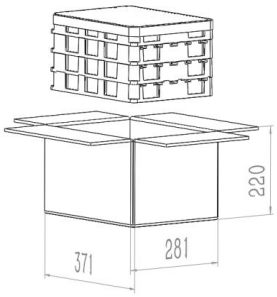
Notes: The load and and the coil is non-polar.

Notes:

1、 Please avoid sticking grease and other foreign bodies on the lead end，PCB terminal use above 10mm2 connecting wires.Otherwise, it may cause abnormal fever at the end of the derivation.

2、PCB Terminal welding temperature and time are recommended not to exceed 260℃/10S，In the case of overrange, damage may result.

Packaging figure



Each plastic box 25PCS， Per carton 100PCS.