Churod Electronics

CHDR1 Series

20A DC Relay

Features

- Epoxy resin seal， Environmental protection category RTII
- 20A 85℃ carrying capacity
- 1A（SPDM）， GAP＞3.0mm
- Outline dimension：PCB：38mm×29.8mm×33.6mm
  TAB： 61.1mm×29.8mm×32mm
- IEC61810，IEC60664，RoHS，REACH SvHC compliance
- PCB mounting type or TAB mounting type

Application

DC power control

Precharge circuit control of inverter

Industrial DC control unit

AGV car

Coil parameters

Rated voltage Vd.c.	Rated power W	Rated current mA	Coil resistance Ω±10%	Operate voltage Vd.c.	Release voltage Vd.c.
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	AgSnO2
Initial voltage drop	≤60 mV at 20 A
Rated current (Resistive Load)	20 A （@2.5mm² PCB or #250 TAB）
Rated switching voltage	600 Vd.c.
Minimum applicable load	48Vd.c.，100mA
Max switching voltage	600 Vd.c.
Rated switching current	12kW（600 Vd.c. ）
Maximum breaking current	35A (450 Vd.c.) ≥3ops.

Durability

Electrical life （Resistive Load）	DV：1.0x10³ ops（600 Vd.c. 20 A） 3.0x10³ ops（500 Vd.c. 20 A）
	DH：6.0x10³ ops（72 Vd.c. 20 A）
Current tolerance	20A, continuous
	30A, 1.0 h
	40A,20 min
	80A, 30 s
	120A, 10 s
	200A, 0.6 s
Mechanical life	2x10⁵ops.ON:OFF：0.2s：0.2s

Notes：Unless otherwise indicated, 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 lengthened and the service 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		10Hz～500Hz，49m/s²
Shock resistance	Functional	ON：196m/s² OFF：98m/s²
	Destruction	490m/s²
Ambient temperature		-40℃~85℃(No dew, No ice)
Relative humidity		5% RH ~85% RH
Terminal style		PCB terminal，TAB terminal
Installation		PCB terminal，M4 screw
Environmental protection category		RTII
Weight		PCB：65g，TAB：67g
Overall dimensions		38mm×29.8mm×33.6mm

Notes：The above values are conservative at 23℃.

Selection of reference

CHDR1 -1 12 DV 20 T 000

- Product code:
  CHDR1 series
- Contact form:
  1 Form A (SPDM)
- Coil rated voltage:
  09:9VDC 12:12VDC 18:18VDC 24:24VDC
  36:36VDC 48:48VDC 60:60VDC 110:110VDC
- Rated switching voltage:
  DV:600VDC DH:72VDC
- Rated switching current:
  20:20A
- Terminal style:
  Blank: PCB terminal T: QC terminal
- Additional numbers and /or letters:
  000-999，AAA-ZZZ，aaa-zzz or blank，which does not represent electrical changes, only for specific customer requirements

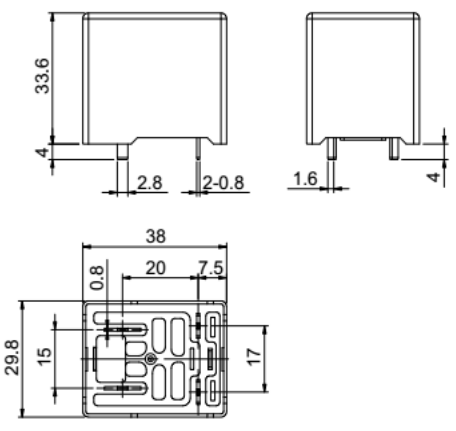
Notes：The special customer shall be identified by the form of characteristic number after our company's review.

Typical model

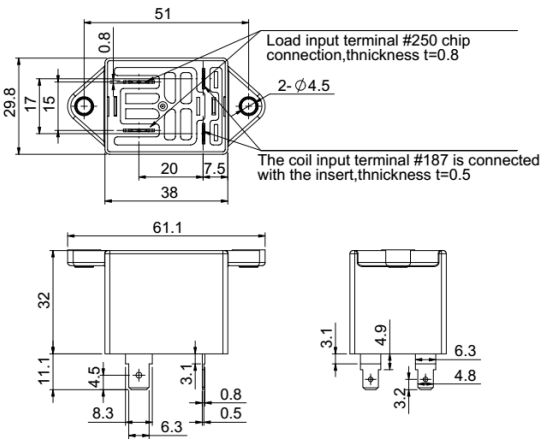
Product description		Characteristics				
Product name	Code	Coil voltage	Contact materials	Load	Electrical life	Safety certification
CHDR1-1**DV20	000	9V DC 12V DC 18V DC 24V DC 36V DC 48V DC 60V DC 110V DC	AgSnO2	20A @600VDC 20A @500VDC	1000ops. 3000ops.	TUV CQC
CHDR1-1**DV20T	000					
CHDR1-1**DH20	000			20A @72VDC	6000ops.	
CHDR1-1**DH20T	000					

Outline dimension

PCB Terminal



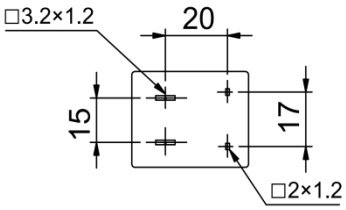
TAB Terminal



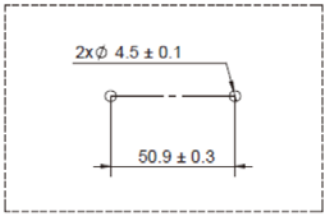
Notes： No dimensional tolerance noted：
size ≤10mm； tolerance ： ±0.2mm；
size 10~50mm； tolerance ： ± 0.3mm；
size ＞50mm时； tolerance ： ±0.4mm。

Mounting hole dimensions and wiring diagram

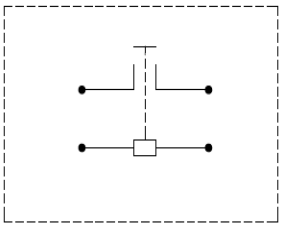
PCB mounting hole dimensions



TAB mounting hole dimensions



Wiring diagram



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

Installation instructions

	Load		Coil	
Product name	Installation	TAB terminal	Connection method	TAB terminal
CHDR1-1XXXX20T	TAB Terminal	#250 thickness 0.8mm	TAB terminal	#187 thickness 0.5mm
CHDR1-1XXXX20	PCB Terminal	/	PCB welding	/

TAB type mounting hole

Product name	Installation	Torque
CHDR1-1XXXX20T	M4 Screw	2~3N · m

Notes：

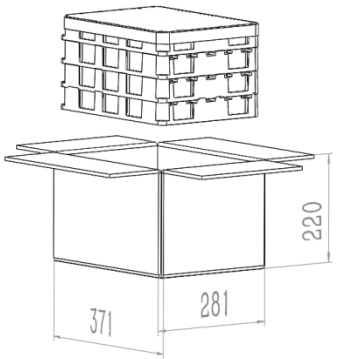
1、TAB type mounting hole use screw M4,Please control the torque within 2 ~ 3N*m.In the case of overrange, damage may result.

2、 Please avoid sticking grease and other foreign bodies on the lead end，PCB terminal use above 2.5mm^2 connecting wires.TAB terminal use #250，Otherwise, it may cause abnormal fever at the end of the derivation.

3、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.



Statement

- This information is for customer reference only.Churod has tried its best to ensure the accuracy of the information. However, errors are unavoidable and the specifications and parameters of the product may change due to the improvement of the product.
- About application, Churod cannot assess relay for each specific application in the field of all performance parameters of the requirements, so customer should according to the specific conditions of use choose matching products, which did not make clear a regulation requirement, please contact Churod in order to get more technical support, Churod clear statement to this data information is only for reference, and the customer is responsible for the product to choose.