

上海良信电器股份有限公司

NDR2M-95

产品规格书

Product Specification

(IPD-ENG-DEV-T20 A2 2023-03-14)

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1、适用范围与用途/Applicat

NDR2M-95 系列热过载继电器 (以下简称热继电器), 在交流 50Hz (60Hz)、额定电压至 690V、电流 17A 至 95A 的电路中, 作三相交流电动机的过载和断相保护之用。

/NDR2M-95 series bimetal thermal overload relay is applicable to circuits with AC 50 Hz or 60Hz, rated working voltage up to 690V and rated current of 17~95A, for overload and phase loss sensitive protection of AC motors.

2、产品图片/Product Picture: (示意图/Diagram)



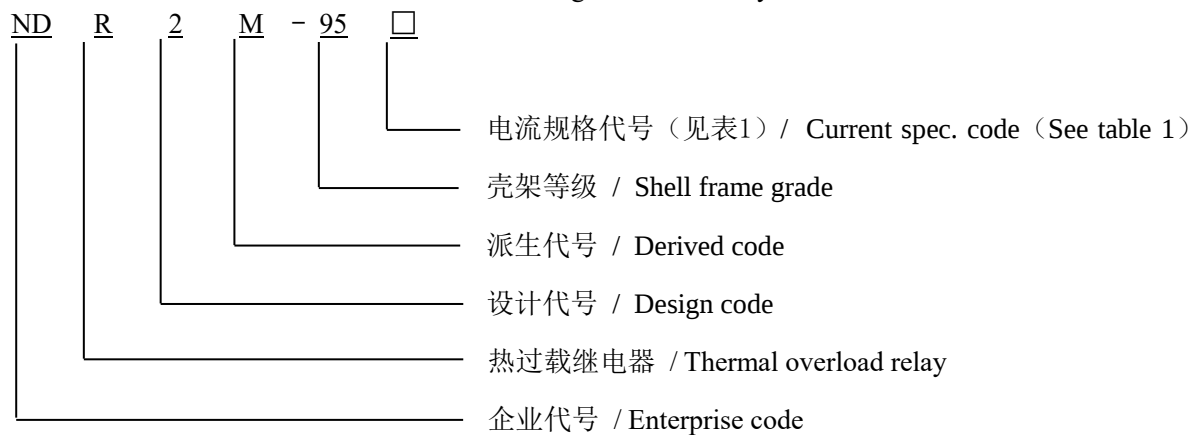
图 1 NDR2M-95



图 2 NDR2M-95+NA2-95

3、规格型号说明/ Explain Specifications of the products

a) 热继电器的型号及其含义/Model and meaning of thermal relay



b) 安装座的型号及其含义



表 1 电流规格基本参数 / Table 1 Basic Parameters of Current Spec

序号 /No.	产品型号/ Product model	整定电流范围 (A) / Setting Current Range (A)	用 (SCPD) 熔断器 (A) / Use (SCPD) Fuse (A)		壳架等级 / Shell frame grade	安装接触器 / Matching Contactor
			aM	gG		
1	NDR2M-9525	17~25	25	50	95	NDC1-40~95
2	NDR2M-9532	23~32	40	63		
3	NDR2M-9540	30~40	40	100		
4	NDR2M-9550	37~50	63	100		
5	NDR2M-9565	48~65	63	100		NDC1-50~95
6	NDR2M-9570	55~70	80	125		
7	NDR2M-9580	63~80	80	125		
8	NDR2M-95104	80~104	100	160		

(注: 仅适用交流线圈接触器, 勿搭配直流线圈接触器使用)

/(Note: Only applicable to AC coil contactors, do not use with DC coil contactors)

4、主要技术参数/ Main Technical Parameters

表 2 技术参数 / Table 2 Technical Parameters

型号/ Model			NDR2M-95	
整定电流范围 Ie/A			17~104	
主回路端子形式 (电源侧) / Main circuit terminal form (power supply side)			插头插入式/ Plug-in type	
主回路端子形式 (负载侧) / Main circuit terminal form (load side)			M10 螺钉/ screw	
额定绝缘电压 Ui/V / Rated insulation voltage Ui V			690	
额定冲击耐受电压 Uimp/kV/ Rated impulse withstand voltage Uimp kV			6	
脱扣等级/ Trip level			10A	
补偿温度/℃/ Compensation temperature ℃			-5~+40	
外壳防护等级/ Enclosure rating			IP20	
辅助触头 /Auxiliary contact	类型/ Type		1NO+1NC	
	约定发热电流 Ith/A /Conventional free-air thermal current Ith A		5	
	AC-15	额定工作电压 Ue/V /Rated operational voltage Ue V	220/380	
		额定工作电流 Ie/A / Rated operational current Ie A	1.58/2.73	
	DC-13	额定工作电压 Ue/V / Rated operational voltage Ue V	110/220	
		额定工作电流 Ie/A / Rated operational current Ie A	0.21/0.46	

表 3 接线端子连接导线的能力 / Table 3 Connection Capacity of Connection Terminal

产品型号 NDR2M- /Product model NDR2M-			25~ 104
			最小截面积/最大截面积 (mm ²) /Minimum cross-sectional area/ maximum cross-sectional area
接线能力 (min/max) mm ² / Connection capacity (min/max) mm ²	主回路/ Main circuit	软线 (无接线端子) 1 根 / Cord (without precast end) 1 pc	4/35
		软线 (有接线端子) 1 根 / Cord (with precast end) 1pc	
		硬线 1 根 / Hard wire 1pc	
	辅助回路 /Auxiliary circuit	软线 (无接线端子) 1 根或 2 根 / Cord (without precast end) 1 or 2 pcs	1/2.5
		软线 (有接线端子) 1 根或 2 根 / Cord (with precast end) 1 or 2 pcs	
		硬线 1 根或 2 根 / Hard wire 1 or 2 pcs	
拧紧力矩 /Tightening torque	主回路/ Main circuit		1.7 N·m ±10%
	辅助回路/ Auxiliary circuit		2 N·m ±10%

5、正常工作环境/ Normal Operational Temperature

5.1 使用环境/ Use environment

- a 周围环境温度: 储存温度为-20~+55℃; 工作温度为-5~+40℃, 且其在 24h 内的平均温度值不超过+35℃

/ Ambient temperature: storage temperature -20~+55℃; working temperature -5~+40℃, and its average temperature value within 24 hours does not exceed +35 °C

- b 海拔: 安装地点的海拔不超过 2000m

/ Altitude: the altitude of the installation site should not exceed 2000m

- c 湿度: 最高温度为+40℃时, 空气的相对湿度不超过 50%, 在较低的温度下可以允许有较高的相对湿度, 例如 20℃时达 90%, 对由于温度变化偶尔产生的凝露应采取特殊的措施

/ Humidity: When the max temperature is +40℃, the relative air humidity cannot exceed 50%; higher relative humidity is allowed at lower temperature, for example humidity can be 90% at 20℃

- d 污染等级: 安装地点的污染等级为 3 级

/ Pollution level: the pollution level at the installation site is level 3

- e 安装类别 (过电压类别): 安装类别为III类

/ Installation category (overvoltage category): installation category is Class III

- f 有关冲击和振动的条件由用户与本公司协商

/ The conditions related to impact and vibration shall be negotiated between the user and our company

6、脱扣特性/ Trip Characteristics

6.1 热继电器在三相平衡时的动作特性见表 4。

/6.1 The operating characteristics of the thermal relay at three-phase balance are shown in Table 4.

表 4 热继电器三相平衡时的动作特性 Table 4 Operating characteristics of thermal relay at three-phase balance

序号 /No.	整定电流倍数 /Setting current multiple	动作时间 / Operation time	起始条件 / Starting condition	周围空气温 度 / Ambient air temperature℃
1	1.05	>2h	冷态 /Cold condition	+20℃±5℃
2	1.20	<2h	接序 1 试验后 / After test No.1	
3	1.50	<2min	接序 1 试验后 / After test No.1	
4	7.2	2s<T _p ≤10s	冷态 /Cold condition	

6.2 热继电器在三相不平衡时的动作特性见表 5。

/The operating characteristics of the thermal relay under three-phase imbalance are shown in Table 5.

表 5 热继电器三相不平衡时的动作特性 /Table 5 Operating characteristics of thermal relay under three-phase unbalance

序号 /No.	整定电流倍数 /Setting current multiple		动作时间 / Operation time	起始条件 / Starting condition	周围空气温 度 / Ambient air temperature℃
	任意二相 / Any two phases	另一相 / The other phase			
1	1.00	0.9	>2h	冷态 /Cold condition	+20℃±5℃
2	1.15	0	<2h	接序 1 试验后 / After test No.1	

6.3 热继电器对周围空气温度的补偿性能见表 6。

/The compensation performance of the thermal relay for the ambient air temperature is shown in Table 6.

表 6 热继电器温度补偿动作特性 /Table 6 Temperature compensation action characteristics of thermal relay

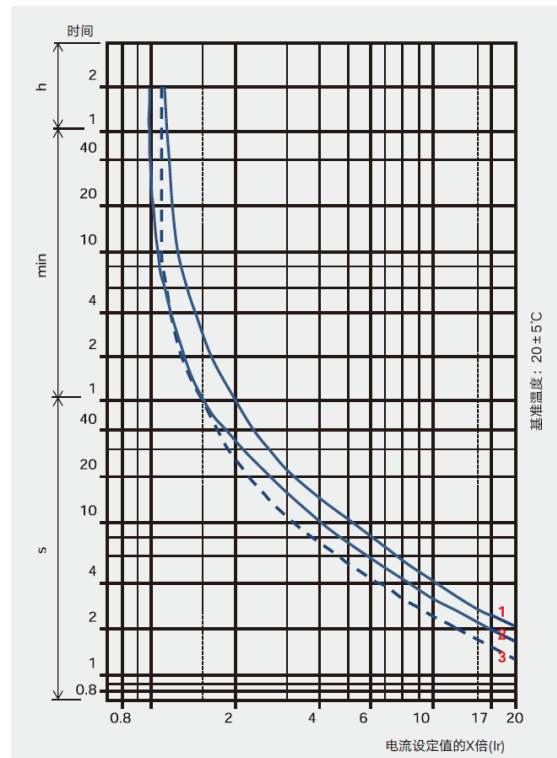
序号 /No.	整定电流倍数 /Setting current multiple	动作时间 / Operation time	起始条件 / Starting condition	周围空气温 度 / Ambient air temperature℃
1	1.00	>2h	冷态 /Cold condition	+40℃±2℃
2	1.20	<2h	接序 1 试验后 / After test No.1	
3	1.50	<2min	接序 1 试验后 / After test No.1	
4	1.05	>2h	冷态 /Cold condition	-5℃±2℃
5	1.30	<2h	接序 4 试验后 / After test No.4	
6	1.50	<4min	接序 4 试验后 / After test No.4	

6.4 复位性能 /Reset Performance

热继电器在正常脱扣后，若复位按钮处于自动复位模式，可在 8 分钟内自动复位，若复位按钮处于手动复位模式，可在 5 分钟后按动复位按钮复位。

/After the thermal relay is normally tripped, if the reset button is in automatic reset mode, it can be reset automatically within 8 minutes. If the reset button is in manual reset mode, it can be reset by pressing the reset button after 5 minutes.

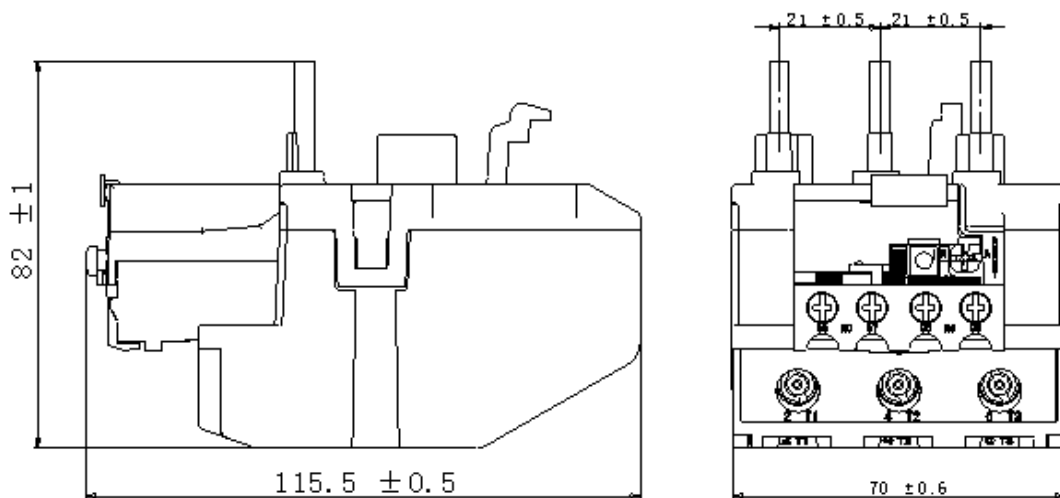
7、电流特性曲线/Current characteristic curve



- 1 平衡运转, 3 相, 从冷态开始。
- 2 平衡运转, 2 相, 从冷态开始。
- 3 平衡运转, 3 相, 在整定电流的一段长时期后 (热态)。

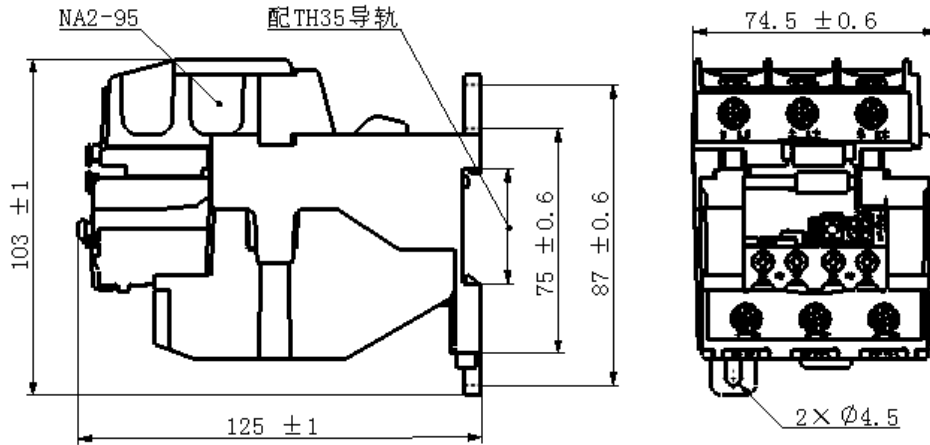
8、产品外形及安装尺寸/ Product Outline and Installing Dimensions

a、NDR2M-95 外形尺寸与安装尺寸/ NDR2M-95 external dimensions and installation dimensions

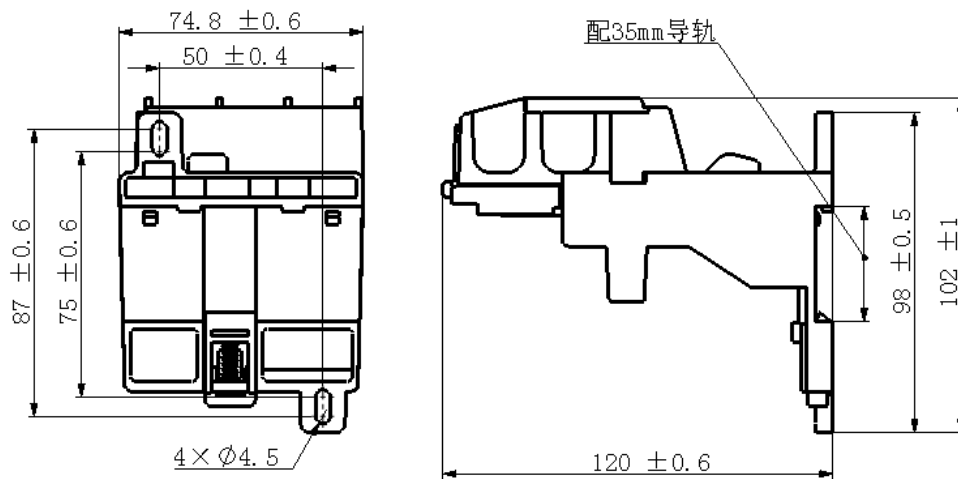


b、NDR2M-95 带独立安装座 (NA2-95) 外形尺寸与安装尺寸

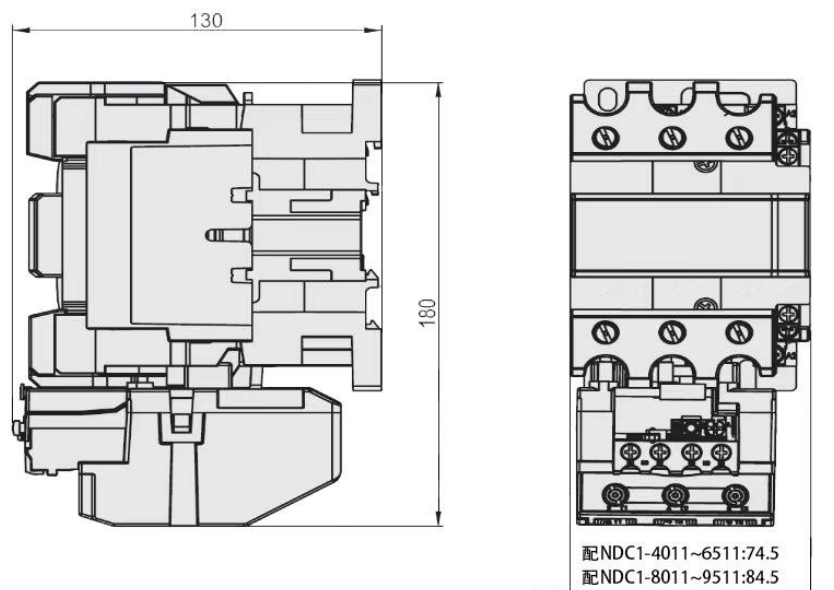
/NDR2M-95 with independent mounting seat (NA2-95) external dimensions and installation dimensions



c、NA2-95 外形尺寸/NA2-95 external dimensions



d、NDR2M-95 配接触器尺寸/NDR2M-95 with contactor size



9、安装方式/ Installation Methods

- a) 组合式: NDR2M-95 热继电器直接安装在 NDC1-40~95 交流接触器上。
/a) Combination type: NDR2M-95 thermal relay is directly installed on NDC1-40-95 AC contactor.
- b) 分立式: NDR2M-95 热继电器配上 NA2-95 安装座后用螺钉安装或用符合 GB/T19334-2003 中的 A.1 TH35 安装轨安装。
/b) Split type: NDR2M- 95 thermal relay is installed with NA2- 95 mounting seat and then installed with screws or with A.1 TH35 mounting rail in accordance with GB/T19334-2003.

10、包装储存/ Packaging and Storage

适用的运输和储存温度范围为-25℃~+55℃, 短时间内(24h内)可达+70℃。在运输过程中, 不得受强烈的颠簸、振动、摔撞, 并应防止雨雪侵袭。

/The applicable transportation and storage temperature range is - 25 °C to+55 °C, and can reach+70 °C in a short period of time (within 24 hours). During transportation, it should not be subjected to strong bumps, vibrations, or collisions, and should be protected from rain and snow.

11、附件/ Attachment

如 NDR2M-95 热继电器需独立安装, 可单独订购 NA2-95 独立安装座。

/If NDR2M- 95 thermal relay needs to be installed independently, NA2- 95 independent installation base can be ordered separately.

12、注意事项/ Precautions

- a、预先调整好整定电流; / Pre-adjust the setting current;
- b、出厂时产品整定在手动复位状态; / When leaving factory, the product is set to the manual reset state
- c、产品脱扣后若复位按钮在自动位置, 可在自动复位, 若复位按钮在手动位置, 可按动复位按钮复位;
/ After the product trips, if the reset button is at the automatic position, it can be automatically reset. If the reset button is at the manual position, press the reset button to reset;
- d、热继电器的进出线接线螺钉要拧紧, 否则会影响接触器的动作特性;
/ The inlet and outlet wiring screws of the thermal relay should be tightened, otherwise it will affect the operating characteristics of the contactor;
- e、因私自拆开产品而引起的质量问题, 责任自负
/Any quality issues caused by unauthorized disassembly of the product shall be the sole responsibility of the individual