

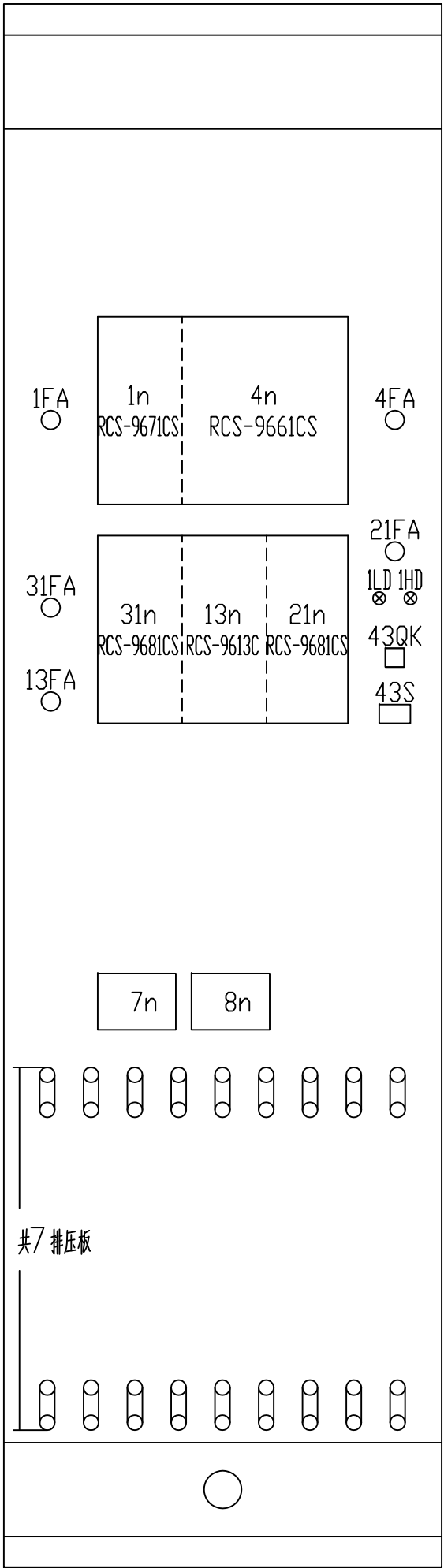
| | |
|------------------------------|----------------------|
| 屏 柜 号: FJ1000407.PG021-PG022 | 图纸编号: T/FJ1000407.21 |
| 工程名称: 福建漳州35kV腾龙芳烃变CS11站 | 受控性质: |
| 尺 寸: 2260*800*600 | |
| 屏 柜: 常规柜 | |
| 颜 色: RAL7032 | |
| 数 量: 2 | 发放编号: |
| 技术参数: AC: 1A DC: 220V | |

PRCK96-721 主变保护测控柜

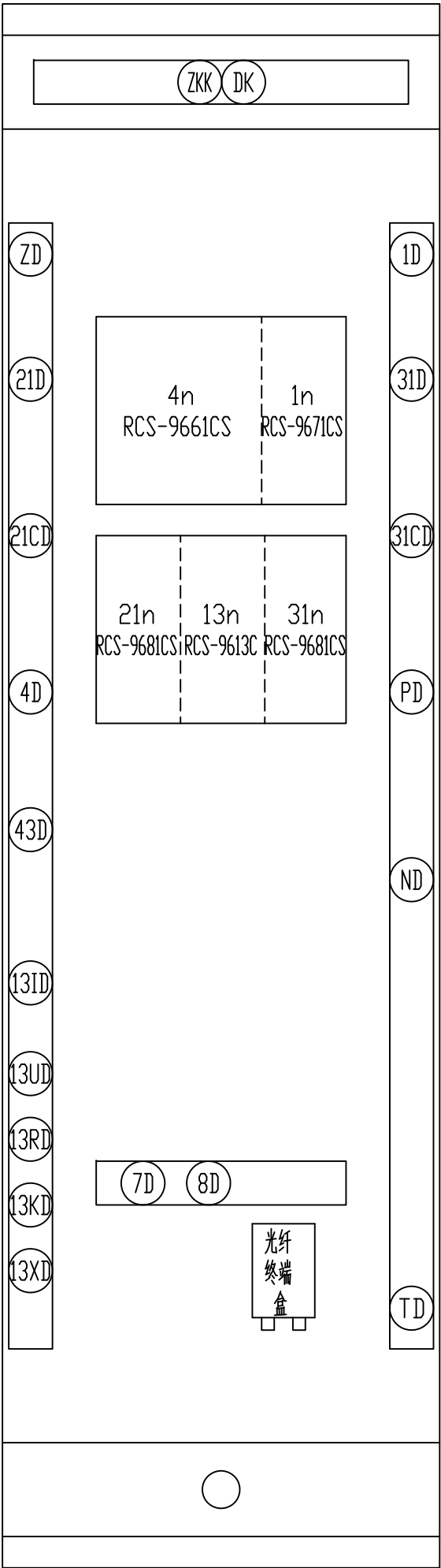
| | | | | | |
|-----|-------|---------------|------------------------------|--------------|----------|
| 设 计 | 陈 诚 | 2011 05.13 | PRCK96-721 变压器保护测控柜 封面 | 第 张 | 共 张 |
| 审 批 | 程 勇 刚 | 2011 05.13 | | NARI-RELAYS | |
| | | | | 南京南瑞继保电气有限公司 | |

| | | |
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| | | |
|----|-------|------------------|
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| 31 | | |
| 32 | | |
| 33 | | |
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| 39 | | |
| 40 | | |



正面



背面

说明 本图纸可适用于高压侧线变接线的两圈变的保护及测控
其中RCS-9681CS型微机变压器后备保护装置含测控功能,
其“四遥”量接入的对应位置见装置端子排中“测控部分”。

说明 闭锁调压采用常开接点,31n425~426改为常开

说明 7n和8n开孔尺寸为152*76mm

说明 本工程采用断路器防跳,取消RCS-9661CS装置的防跳回路,见第26页。

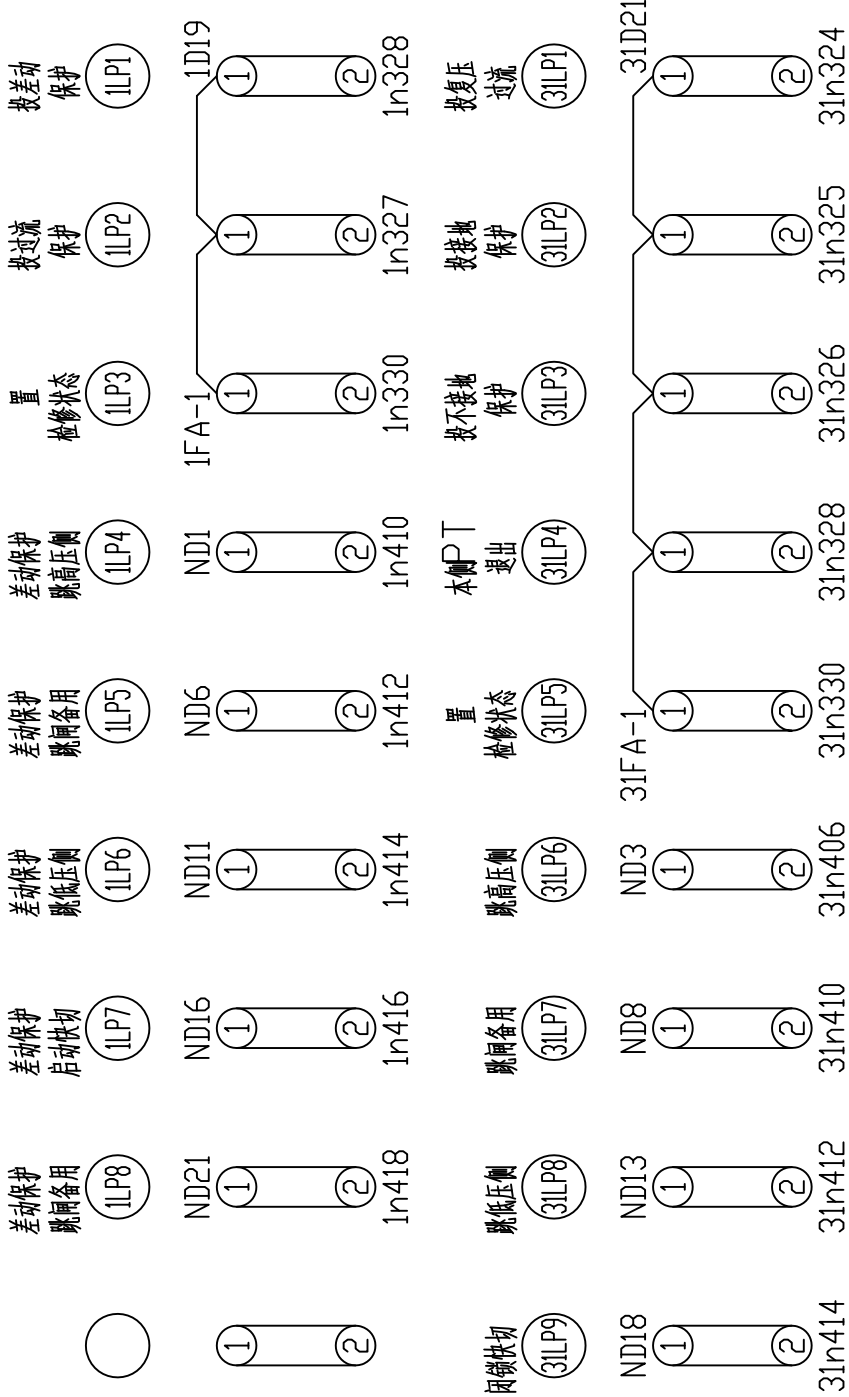
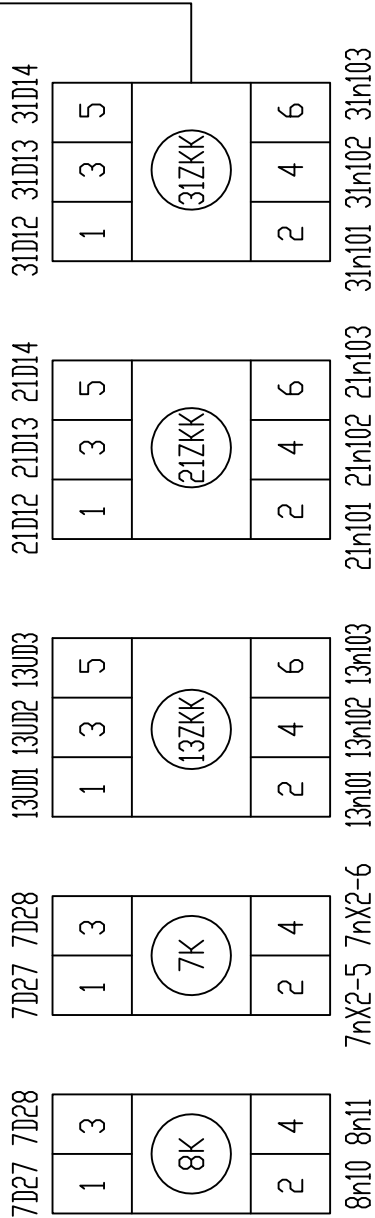
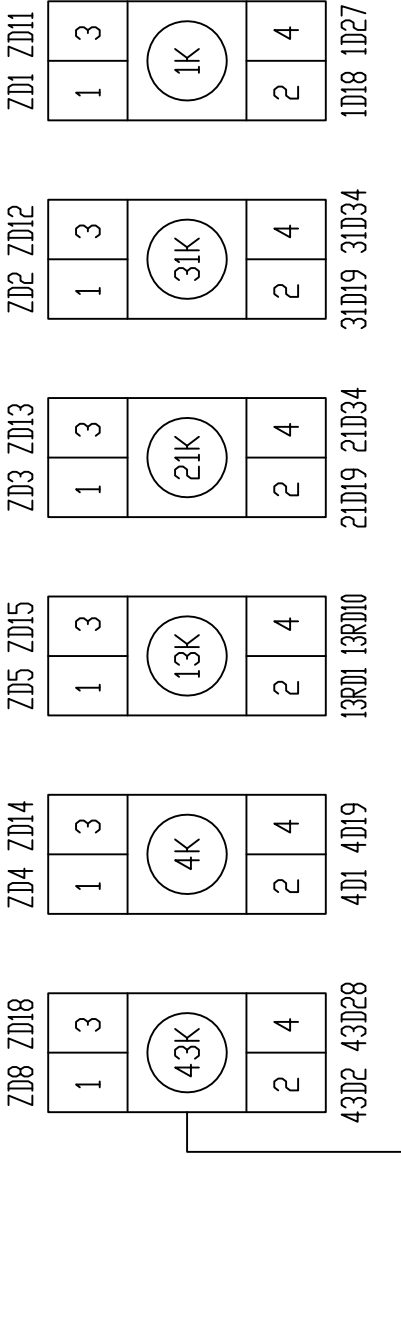
说明 31n装置特殊,采用二次开发单110421。
13n装置特殊,采用二次开发单110548。

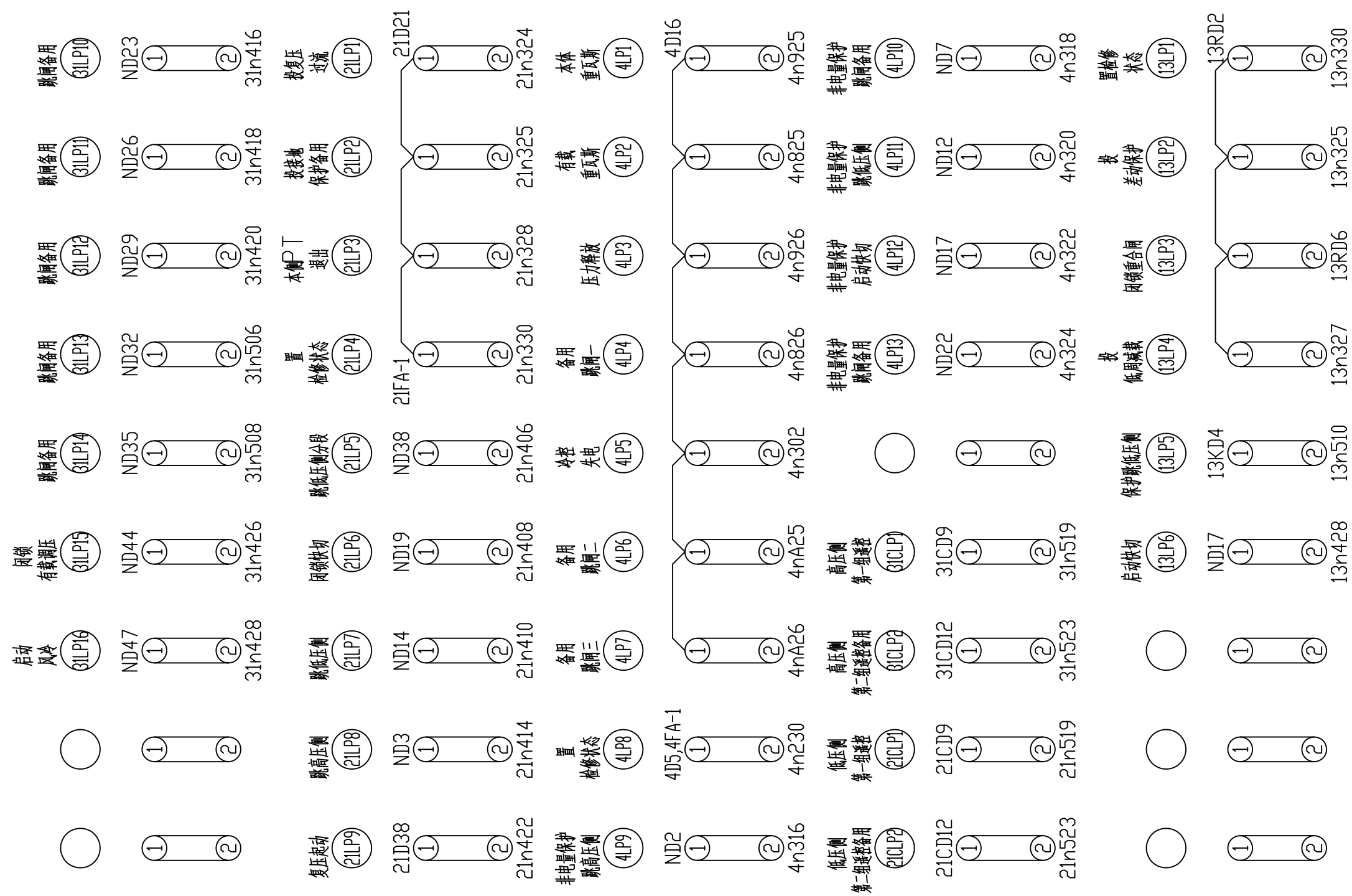


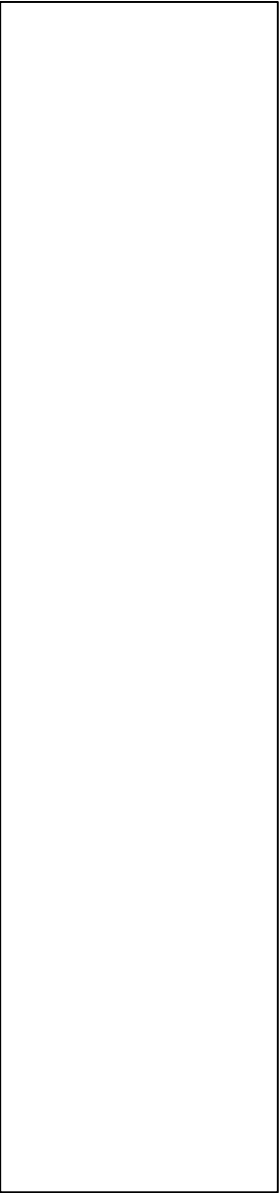
HDO 合位(红色)
LDO 分位(绿色)

| | | | | | |
|----|-------|------------|---------------------|----|---------|
| 21 | | | | | |
| 20 | | 其他端子 | UDK4 | | |
| 19 | | 试验端子 | URTK/S | | |
| 18 | | 光纤终端盒 | | 1 | |
| 17 | LD | 绿灯 | AD11-22 DC220V | 1 | |
| 16 | HD | 红灯 | AD11-22 DC220V | 1 | |
| 15 | QK | 控制开关 | LW21-16D/49.4040.4S | 1 | |
| 14 | 7K,8K | 交流电源开关 | S252S-B04 | 2 | |
| 13 | ZKK | 电压开关 | S253S-B02 | 3 | |
| 12 | 43K | 电源开关 | S252S-B04-DC | 1 | |
| 11 | DK | 电源开关 | S252S-B02-DC | 5 | |
| 10 | FA | 按钮 | LA42P-10/G | 5 | |
| 9 | LP | 连接片 | XH17-2T/Z | 63 | |
| 8 | 43S | 五防锁 | DNBS-2A | 1 | |
| 7 | 8n | 自动电压调整器 | ZDT-60T | 0 | 用户物料 |
| 6 | 7n | 智能分接位置监控器 | CY40T | 0 | 用户物料 |
| 5 | 13n | 线路光纤差动保护装置 | RCS-9613C-2TP | 1 | |
| 4 | 4n | 变压器非电量保护装置 | RCS-9661CS-2TP | 1 | |
| 3 | 21n | 变压器后备保护装置 | RCS-9681CS-2TP | 1 | 用于主变低压侧 |
| 2 | 31n | 变压器后备保护装置 | RCS-9681CS-2TP | 1 | 用于主变高压侧 |
| 1 | 1n | 变压器差动保护装置 | RCS-9671CS-2TP | 1 | |
| 序号 | 符号 | 名称 | 型号 | 数量 | 备注 |

| ZD | |
|-------|----------|
| 装置电源+ | 1 1K-1 |
| | 2 31K-1 |
| | 3 21K-1 |
| | 4 4K-1 |
| | 5 13K-1 |
| | 6 |
| 操作电源+ | 7 |
| | 8 43K-1 |
| | 9 |
| | 10 |
| 装置电源- | 11 1K-3 |
| | 12 31K-3 |
| | 13 21K-3 |
| | 14 4K-3 |
| | 15 13K-3 |
| | 16 |
| 操作电源- | 17 |
| | 18 43K-3 |
| | 19 |
| | 20 |
| | 21 |
| | 22 |
| | 23 |
| | 24 |
| | 25 |
| | 26 |
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| | 34 |
| | 35 |







| OUT | |
|------------------|-----|
| 中央信号公共 | 401 |
| 装置闭锁 | 402 |
| 装置报警 | 403 |
| 保护跳闸 | 404 |
| 遥信信号公共 | 405 |
| 装置闭锁 | 406 |
| 装置报警 | 407 |
| 保护跳闸 | 408 |
| 跳 闸 出 口 | 409 |
| | 410 |
| | 411 |
| | 412 |
| | 413 |
| | 414 |
| | 415 |
| | 416 |
| | 417 |
| | 418 |
| | 419 |
| | 420 |
| | 421 |
| | 422 |
| | 423 |
| | 424 |

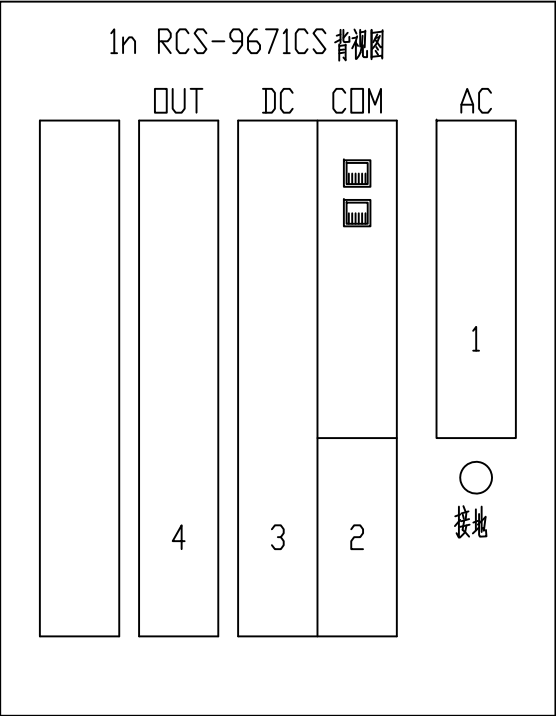
| DC | |
|-------|-----|
| 电源地 | 301 |
| | 302 |
| 装置电源正 | 303 |
| 装置电源负 | 304 |
| 开入公共负 | 305 |
| | 306 |
| | 307 |
| | 308 |
| | 309 |
| | 310 |
| | 311 |
| | 312 |
| | 313 |
| | 314 |
| | 315 |
| | 316 |
| | 317 |
| | 318 |
| | 319 |
| | 320 |
| | 321 |
| | 322 |
| | 323 |
| | 324 |
| | 325 |
| | 326 |
| 投过流保护 | 327 |
| 投差动保护 | 328 |
| 信号复归 | 329 |
| 置检修状态 | 330 |

接地柱
1D18
1D27
1D28

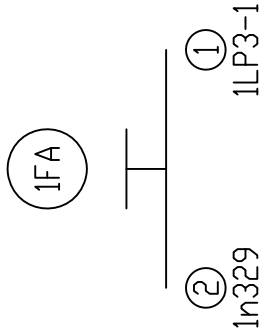
| COM | |
|------------------|----------|
| 以太网A | |
| 以太网B | |
| 串 口 通 讯 | 485A 201 |
| | 485B 202 |
| | GND 203 |
| | 485A 204 |
| | 485B 205 |
| | GND 206 |
| 对 时 | SYN+ 207 |
| | SYN- 208 |
| | GND 209 |
| 打 印 | RXD 210 |
| | TXD 211 |
| | GND 212 |

| AC | | | | |
|--------|-----|-----|------|-----|
| * 1D1 | 101 | Ia1 | Ia1' | 102 |
| * 1D2 | 103 | Ib1 | Ib1' | 104 |
| * 1D3 | 105 | Ic1 | Ic1' | 106 |
| * 1D5 | 107 | Ia2 | Ia2' | 108 |
| * 1D6 | 109 | Ib2 | Ib2' | 110 |
| * 1D7 | 111 | Ic2 | Ic2' | 112 |
| * 1D9 | 113 | Ia3 | Ia3' | 114 |
| * 1D10 | 115 | Ib3 | Ib3' | 116 |
| * 1D11 | 117 | Ic3 | Ic3' | 118 |
| * 1D13 | 119 | Ia4 | Ia4' | 120 |
| * 1D14 | 121 | Ib4 | Ib4' | 122 |
| * 1D15 | 123 | Ic4 | Ic4' | 124 |

1n301
接地



说明: 图中标“*”号的为交流电流回路
图中标“&”号的为对时网络, 使用Belden专用双绞线



| 1D | | | | | |
|--------|----|------|-----|------|---|
| 1n101 | 1 | | | 31D5 | * |
| 1n103 | 2 | | 高压侧 | 31D6 | * |
| 1n105 | 3 | | 电流 | 31D7 | * |
| 1n102 | 4 | | | 31D4 | * |
| 1n107 | 5 | 0 5 | | 1Ia2 | * |
| 1n109 | 6 | 0 6 | 备用 | 1Ib2 | * |
| 1n111 | 7 | 0 7 | 电流 | 1Ic2 | * |
| 1n108 | 8 | 0 8 | | 1In2 | * |
| 1n113 | 9 | 0 9 | | 1Ia3 | * |
| 1n115 | 10 | 0 10 | 备用 | 1Ib3 | * |
| 1n117 | 11 | 0 11 | 电流 | 1Ic3 | * |
| 1n114 | 12 | 0 12 | | 1In3 | * |
| 1n119 | 13 | 13 | | 1Ia4 | * |
| 1n121 | 14 | 14 | 低压侧 | 1Ib4 | * |
| 1n123 | 15 | 15 | 电流 | 1Ic4 | * |
| 1n120 | 16 | 16 | | 1In4 | * |
| | 17 | | | | |
| 1n303 | 18 | 18 | 直流正 | 1K-2 | |
| 1LP1-1 | 19 | 19 | | | |
| | 20 | | | | |
| 1n405 | 21 | 21 | 通 信 | | |
| | 22 | 22 | | | |
| 1n406 | 23 | 23 | | | |
| 1n407 | 24 | 24 | | | |
| 1n408 | 25 | 25 | | | |
| | 26 | 26 | | | |
| 1n304 | 27 | 27 | 直流负 | 1K-4 | |
| 1n305 | 28 | 28 | | | |
| | 29 | 29 | | | |
| | 30 | 30 | | | |

说明：图中标“*”号的为 交流 电流回路

OUT2

| | | |
|--------|-----------------------------------|--------------|
| 通信信号公共 | 501 | 31D27 |
| 装置闭锁 | 502 | 31D29 |
| 装置报警 | 503 | 31D30 |
| 保护跳闸 | 504 | 31D31 |
| 出口 5 | <div><div></div><div></div></div> | 505 PD32 |
| | <div><div></div><div></div></div> | 506 31LP13-2 |
| | <div><div></div><div></div></div> | 507 PD35 |
| | <div><div></div><div></div></div> | 508 31LP14-2 |
| 出口 6 | <div><div></div><div></div></div> | 509 |
| | <div><div></div><div></div></div> | 510 |
| | <div><div></div><div></div></div> | 511 |
| | <div><div></div><div></div></div> | 512 |
| 出口 7 | <div><div></div><div></div></div> | 513 |
| | <div><div></div><div></div></div> | 514 |
| | <div><div></div><div></div></div> | 515 |
| | <div><div></div><div></div></div> | 516 |
| 遥跳 1 | <div><div></div><div></div></div> | 517 |
| | | 518 |
| 遥跳 1 | <div><div></div><div></div></div> | 519 31CLP1-2 |
| | | 520 31CD10 |
| 遥合 1 | <div><div></div><div></div></div> | 521 |
| | | 522 31CD11 |
| 遥跳 2 | <div><div></div><div></div></div> | 523 31CLP2-2 |
| | | 524 31CD13 |
| 遥合 2 | <div><div></div><div></div></div> | 525 31CD14 |
| | | 526 |
| 遥跳 3 | <div><div></div><div></div></div> | 527 |
| | | 528 |
| 遥合 3 | <div><div></div><div></div></div> | 529 |
| | | 530 |

OUT1

| | | |
|--------|-----------------------------------|--------------|
| 中央信号公共 | 401 | |
| 装置闭锁 | 402 | |
| 装置报警 | 403 | |
| 保护跳闸 | 404 | |
| 出口 1 | <div><div></div><div></div></div> | 405 PD3 |
| | <div><div></div><div></div></div> | 406 31LP6-2 |
| | <div><div></div><div></div></div> | 407 |
| | <div><div></div><div></div></div> | 408 |
| 出口 2 | <div><div></div><div></div></div> | 409 PD8 |
| | <div><div></div><div></div></div> | 410 31LP7-2 |
| | <div><div></div><div></div></div> | 411 PD13 |
| | <div><div></div><div></div></div> | 412 31LP8-2 |
| 出口 3 | <div><div></div><div></div></div> | 413 PD18 |
| | <div><div></div><div></div></div> | 414 31LP9-2 |
| | <div><div></div><div></div></div> | 415 PD23 |
| | <div><div></div><div></div></div> | 416 31LP10-2 |
| 出口 4 | <div><div></div><div></div></div> | 417 PD26 |
| | <div><div></div><div></div></div> | 418 31LP11-2 |
| | <div><div></div><div></div></div> | 419 PD29 |
| | <div><div></div><div></div></div> | 420 31LP12-2 |
| UBL1 | <div><div></div><div></div></div> | 421 |
| | | 422 |
| UBL2 | <div><div></div><div></div></div> | 423 |
| | | 424 |
| BSTY | <div><div></div><div></div></div> | 425 PD44 |
| | | 426 31LP15-2 |
| TFQD | <div><div></div><div></div></div> | 427 PD47 |
| | | 428 31LP16-2 |
| GFH | <div><div></div><div></div></div> | 429 31D28 |
| | | 430 31D32 |

DC

| | | |
|---------|-----|---------|
| 电源地 | 301 | 接地柱 |
| | 302 | |
| 装置电源正 | 303 | 31D19 |
| 装置电源负 | 304 | 31D34 |
| 开入公共负 | 305 | 31CD39 |
| YX1 | 306 | 31CD20 |
| YX2 | 307 | 31CD21 |
| YX3 | 308 | 31CD22 |
| YX4 | 309 | 31CD23 |
| YX5 | 310 | 31CD24 |
| YX6 | 311 | 31CD25 |
| YX7 | 312 | 31CD26 |
| YX8 | 313 | 31CD27 |
| YX9 | 314 | 31CD28 |
| YX10 | 315 | 31CD29 |
| YX11 | 316 | 31CD30 |
| YX12 | 317 | 31CD31 |
| YX13 | 318 | 31CD32 |
| YX14 | 319 | 31CD33 |
| YX15 | 320 | 31CD34 |
| YX16 | 321 | 31CD35 |
| YX17 | 322 | 31CD36 |
| YX18 | 323 | 31CD37 |
| 投复压过流 | 324 | 31LP1-2 |
| 投接地保护 | 325 | 3LP2-2 |
| 投不接地保护 | 326 | 3LP3-2 |
| 其他侧复压动作 | 327 | 31D24 |
| 本侧PT退出 | 328 | 31LP4-2 |
| 信号复归 | 329 | 31FA-2 |
| 置检修状态 | 330 | 31LP5-2 |

COM

以太网A

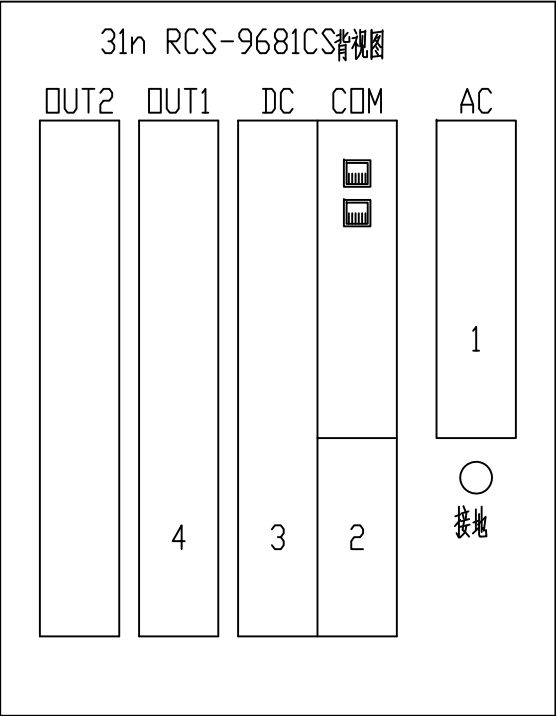
以太网B

| | | |
|------|------|-------|
| 串口通讯 | 485A | 201 |
| | 485B | 202 |
| | GND | 203 |
| | 485A | 204 |
| | 485B | 205 |
| | GND | 206 |
| 对时 | SYN+ | 207 & |
| | SYN- | 208 & |
| | GND | 209 & |
| 打印 | RXD | 210 |
| | TXD | 211 |
| | GND | 212 |

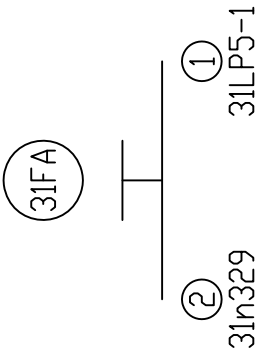
AC

| | | | | | |
|---------|-----|-----|------|-----|---------|
| 31ZKK-2 | 101 | Ua | Ub | 102 | 31ZKK-4 |
| 31ZKK-6 | 103 | Uc | Un | 104 | 31D15 |
| 31D17 | 105 | Uo | Uon | 106 | 31D16 |
| | 107 | | | 108 | |
| * 31CD1 | 109 | Iam | Iam' | 110 | 31CD5 * |
| * 31CD2 | 111 | Ibm | Ibm' | 112 | 31CD6 * |
| * 31CD3 | 113 | Icm | Icm' | 114 | 31CD7 * |
| * 31D1 | 115 | Ia | Ia' | 116 | 31D5 * |
| * 31D2 | 117 | Ib | Ib' | 118 | 31D6 * |
| * 31D3 | 119 | Ic | Ic' | 120 | 31D7 * |
| * 31D8 | 121 | Io | Io' | 122 | 31D9 * |
| * 31D10 | 123 | Iog | Iog' | 124 | 31D11 * |

○ 31n301
接地



说明: 图中标“*”号的为交流电流回路
图中标“&”号的为对时网络, 使用Belden专用双绞线



说明：图中标“*”号的为交流电流回路

| 31CD | | | 测控部分 | | | 31D | | | 保护部分 | | |
|----------|----|-------|-------|--|--|---------|----|---------------------|--------|--|---|
| *31n109 | 1 | 31IA | | | | *31n115 | 1 | 31I _a | | | * |
| *31n111 | 2 | 31IB | | | | *31n117 | 2 | 31I _b | | | * |
| *31n113 | 3 | 31IC | | | | *31n119 | 3 | 31I _c | | | * |
| *31n110 | 4 | 31IN | | | | *1D4 | 4 | 31I _n | | | * |
| *31n112 | 5 | 31IA' | | | | *31n116 | 5 | 31I _a ' | 1D1 | | * |
| *31n114 | 6 | 31IB' | | | | *31n118 | 6 | 31I _b ' | 1D2 | | * |
| *31n114 | 7 | 31IC' | | | | *31n120 | 7 | 31I _c ' | 1D3 | | * |
| | 8 | | | | | *31n121 | 8 | 31I ₀ | | | * |
| 31CLP1-1 | 9 | 遥控 | 出口公共 | | | *31n122 | 9 | 31I ₀ ' | | | * |
| 31n520 | 10 | 备用 | 跳闸 | | | *31n123 | 10 | 31I _{0g} | | | * |
| 31n522 | 11 | | 合闸 | | | *31n124 | 11 | 31I _{0g} ' | | | * |
| 31CLP2-1 | 12 | 遥控 | 出口公共 | | | | | | | | |
| 31n524 | 13 | 备用 | 跳闸 | | | 31ZKK-1 | 12 | 31U _a | 21D12' | | |
| 31n526 | 14 | | 合闸 | | | 31ZKK-3 | 13 | 31U _b | 21D13' | | |
| | 15 | | | | | 31ZKK-5 | 14 | 31U _c | 21D14' | | |
| 31D20 | 16 | 开入 | | | | 31n104 | 15 | 31U _n | 21D15' | | |
| 7D1 | 17 | 公共正 | | | | 31n106 | 16 | 31U _{0n} | | | |
| | 18 | | | | | 31n105 | 17 | 31U ₀ | | | |
| 31n306 | 20 | | 开1 | | | | 18 | | | | |
| 31n307 | 21 | | 开2 | | | 31n303 | 19 | 电源正 | 31K-2 | | |
| 31n308 | 22 | | 开3 | | | 31CD16 | 20 | | | | |
| 31n309 | 23 | | 开4 | | | 31LP1-1 | 21 | 输入 | | | |
| 31n310 | 24 | | 开5 | | | 21D37 | 22 | 公共正 | | | |
| 31n311 | 25 | | 开6 | | | | 23 | | | | |
| 31n312 | 26 | | 开7 | | | 31n327 | 24 | 复压 | | | |
| 31n313 | 27 | | 开8 | | | 21D38 | 25 | 启动 | | | |
| 31n314 | 28 | | 开9 | | | | 26 | | | | |
| 31n315 | 29 | | 开10 | | | 31n501 | 27 | | | | |
| 31n316 | 30 | | 开11 | | | 31n429 | 28 | | 通信 | | |
| 31n317 | 31 | | 开12 | | | 31n502 | 29 | | | | |
| 31n318 | 32 | | 7D2 | | | 31n503 | 30 | | | | |
| 31n319 | 33 | | 7D3 | | | 31n504 | 31 | | | | |
| 31n320 | 34 | | 7D4 | | | 31n430 | 32 | | | | |
| 31n321 | 35 | | 7D5 | | | | 33 | | | | |
| 31n322 | 36 | | 7D6 | | | 31n304 | 34 | 电源负 | 31K-4 | | |
| 31n323 | 37 | | 7D7 | | | 31CD39 | 35 | | | | |
| | 38 | | | | | | | | | | |
| 31n305 | 39 | 开入负 | 31D35 | | | | | | | | |

OUT2

| | | |
|--------|-------------------------------------|-------|
| 通信信号公共 | 501 | 21D27 |
| 装置闭锁 | 502 | 21D29 |
| 装置报警 | 503 | 21D30 |
| 保护跳闸 | 504 | 21D31 |
| 出口 5 | <div><div>⚡</div><div>○</div></div> | 505 |
| | <div><div>○</div><div>○</div></div> | 506 |
| | <div><div>⚡</div><div>○</div></div> | 507 |
| | <div><div>○</div><div>○</div></div> | 508 |
| 出口 6 | <div><div>⚡</div><div>○</div></div> | 509 |
| | <div><div>○</div><div>○</div></div> | 510 |
| | <div><div>⚡</div><div>○</div></div> | 511 |
| | <div><div>○</div><div>○</div></div> | 512 |
| 出口 7 | <div><div>⚡</div><div>○</div></div> | 513 |
| | <div><div>○</div><div>○</div></div> | 514 |
| | <div><div>⚡</div><div>○</div></div> | 515 |
| | <div><div>○</div><div>○</div></div> | 516 |
| 遥跳 1 | <div><div>⚡</div><div>○</div></div> | 517 |
| | <div><div>○</div><div>○</div></div> | 518 |
| 遥合 1 | <div><div>⚡</div><div>○</div></div> | 519 |
| | <div><div>○</div><div>○</div></div> | 520 |
| 遥跳 2 | <div><div>⚡</div><div>○</div></div> | 521 |
| | <div><div>○</div><div>○</div></div> | 522 |
| 遥合 2 | <div><div>⚡</div><div>○</div></div> | 523 |
| | <div><div>○</div><div>○</div></div> | 524 |
| 遥跳 3 | <div><div>⚡</div><div>○</div></div> | 525 |
| | <div><div>○</div><div>○</div></div> | 526 |
| 遥合 3 | <div><div>⚡</div><div>○</div></div> | 527 |
| | <div><div>○</div><div>○</div></div> | 528 |
| 遥跳 4 | <div><div>⚡</div><div>○</div></div> | 529 |
| | <div><div>○</div><div>○</div></div> | 530 |

21CLP1-2

21CD10

21CD11

21CLP2-2

21CD13

21CD14

OUT1

| | | |
|--------|-------------------------------------|-----|
| 中央信号公共 | 401 | |
| 装置闭锁 | 402 | |
| 装置报警 | 403 | |
| 保护跳闸 | 404 | |
| 出口 1 | <div><div>⚡</div><div>○</div></div> | 405 |
| | <div><div>○</div><div>○</div></div> | 406 |
| | <div><div>⚡</div><div>○</div></div> | 407 |
| | <div><div>○</div><div>○</div></div> | 408 |
| 出口 2 | <div><div>⚡</div><div>○</div></div> | 409 |
| | <div><div>○</div><div>○</div></div> | 410 |
| | <div><div>⚡</div><div>○</div></div> | 411 |
| | <div><div>○</div><div>○</div></div> | 412 |
| 出口 3 | <div><div>⚡</div><div>○</div></div> | 413 |
| | <div><div>○</div><div>○</div></div> | 414 |
| | <div><div>⚡</div><div>○</div></div> | 415 |
| | <div><div>○</div><div>○</div></div> | 416 |
| 出口 4 | <div><div>⚡</div><div>○</div></div> | 417 |
| | <div><div>○</div><div>○</div></div> | 418 |
| UBL1 | <div><div>⚡</div><div>○</div></div> | 419 |
| | <div><div>○</div><div>○</div></div> | 420 |
| UBL2 | <div><div>⚡</div><div>○</div></div> | 421 |
| | <div><div>○</div><div>○</div></div> | 422 |
| BSTY | <div><div>⚡</div><div>○</div></div> | 423 |
| | <div><div>○</div><div>○</div></div> | 424 |
| TFQD | <div><div>⚡</div><div>○</div></div> | 425 |
| | <div><div>○</div><div>○</div></div> | 426 |
| GFH | <div><div>⚡</div><div>○</div></div> | 427 |
| | <div><div>○</div><div>○</div></div> | 428 |
| 遥跳 5 | <div><div>⚡</div><div>○</div></div> | 429 |
| | <div><div>○</div><div>○</div></div> | 430 |

PD38

21LP5-2

PD19

21LP6-2

PD14

21LP7-2

PD3

21LP8-2

21D37

21LP9-2

21D28

21D32

DC

| | | |
|---------|-----|---------|
| 电源地 | 301 | 接地柱 |
| | 302 | |
| 装置电源正 | 303 | 21D19 |
| 装置电源负 | 304 | 21D34 |
| 开入公共负 | 305 | 21CD33 |
| YX1 | 306 | 21CD20 |
| YX2 | 307 | 21CD21 |
| YX3 | 308 | 21CD22 |
| YX4 | 309 | 21CD23 |
| YX5 | 310 | 21CD24 |
| YX6 | 311 | 21CD25 |
| YX7 | 312 | 21CD26 |
| YX8 | 313 | 21CD27 |
| YX9 | 314 | 21CD28 |
| YX10 | 315 | 21CD29 |
| YX11 | 316 | 21CD30 |
| YX12 | 317 | 21CD31 |
| YX13 | 318 | |
| YX14 | 319 | |
| YX15 | 320 | |
| YX16 | 321 | |
| YX17 | 322 | |
| YX18 | 323 | |
| 投复压过流 | 324 | 21LP1-2 |
| 投接地保护 | 325 | 21LP2-2 |
| 投不接地保护 | 326 | |
| 其他侧复压动作 | 327 | 21D24 |
| 本侧PT退出 | 328 | 21LP3-2 |
| 信号复归 | 329 | 21FA-2 |
| 置检修状态 | 330 | 21LP4-2 |

COM

| | | |
|------|------|-----|
| 以太网A | | |
| 以太网B | | |
| 串口通讯 | 485A | 201 |
| | 485B | 202 |
| | GND | 203 |
| | 485A | 204 |
| | 485B | 205 |
| | GND | 206 |
| 对时 | SYN+ | 207 |
| | SYN- | 208 |
| | GND | 209 |
| 打印 | RXD | 210 |
| | TXD | 211 |
| | GND | 212 |

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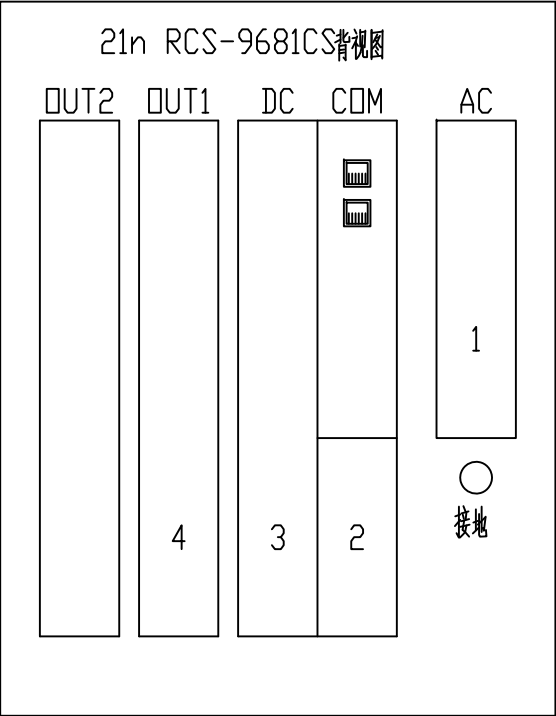
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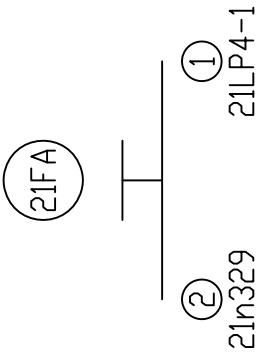
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| | | | | | |
|---------|-----|-----|------|-----|---------|
| 21ZKK-2 | 101 | Ua | Ub | 102 | 21ZKK-4 |
| 21ZKK-6 | 103 | Uc | Un | 104 | 21D15 |
| 21D17 | 105 | Uo | Uon | 106 | 21D16 |
| | 107 | | | 108 | |
| * 21CD1 | 109 | Iam | Iam' | 110 | 21CD5 * |
| * 21CD2 | 111 | Ibm | Ibm' | 112 | 21CD6 * |
| * 21CD3 | 113 | Icm | Icm' | 114 | 21CD7 * |
| * 21D1 | 115 | Ia | Ia' | 116 | 21D5 * |
| * 21D2 | 117 | Ib | Ib' | 118 | 21D6 * |
| * 21D3 | 119 | Ic | Ic' | 120 | 21D7 * |
| * 21D8 | 121 | Io | Io' | 122 | 21D9 * |
| | 123 | Iog | Iog' | 124 | |

○ 21n301
接地



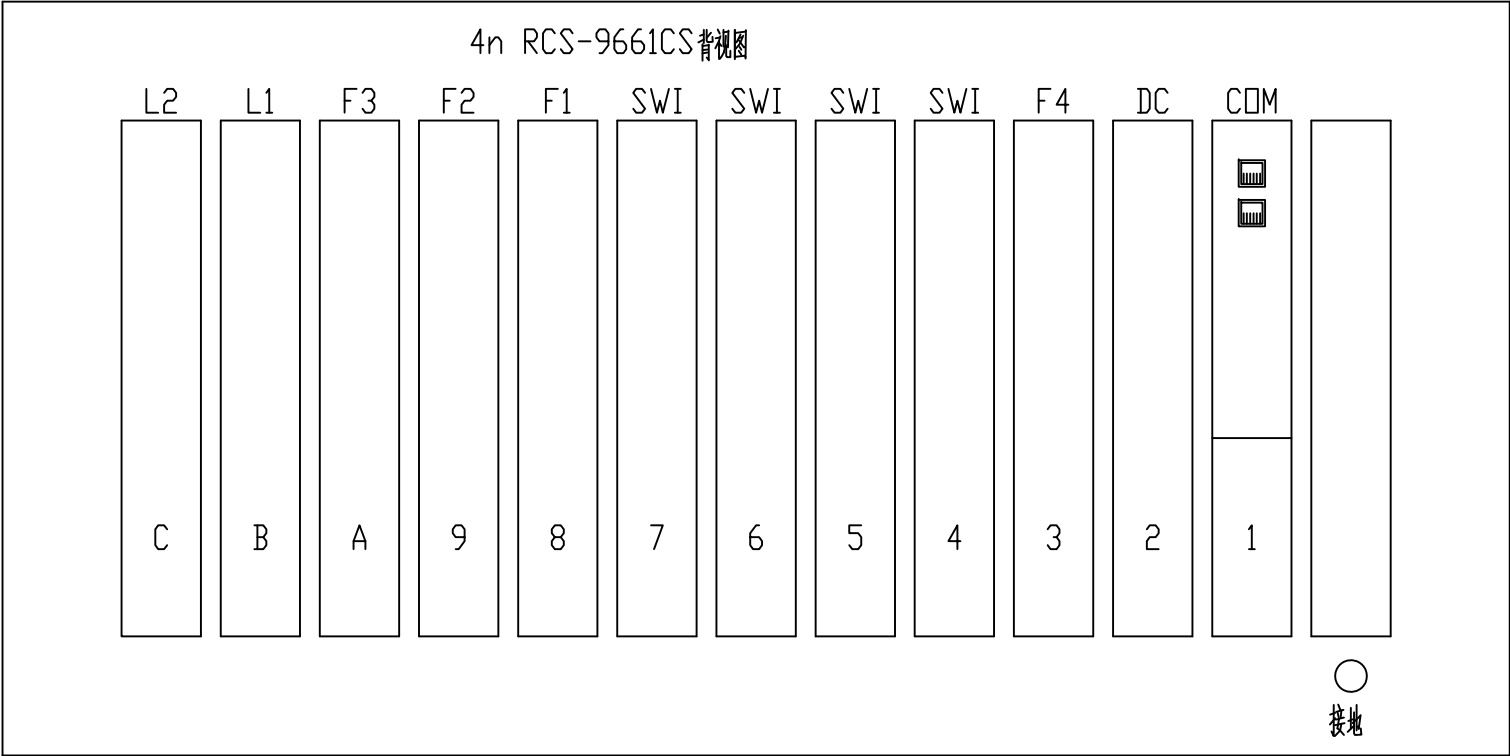
说明: 图中标“*”号的为交流电流回路,
图中标“&”号的为对时网络, 使用Belden专用双绞线



说明：图中标“*”号的为 交流 电流回路。

| 21CD 测控部分 | | | 21D 保护部分 | | |
|-----------|----|-------|----------|-----|--------------------|
| * 21n109 | 1 | 21IA | * 21n115 | 1 | 21I _a |
| * 21n111 | 2 | 21IB | * 21n117 | 2 | 21I _b |
| * 21n113 | 3 | 21IC | * 21n119 | 3 | 21I _c |
| * 21n110 | 4 | 21IN | * 21n116 | 4 | 21I _n |
| * 21n112 | 5 | 21IA' | * 21n118 | 5 | 21I _a ' |
| * 21n114 | 6 | 21IB' | * 21n120 | 6 | 21I _b ' |
| * 21n114 | 7 | 21IC' | * 21n121 | 7 | 21I _c ' |
| | 8 | | * 21n122 | 8 | 21I ₀ |
| 21CLP1-1 | 9 | 主变 | * 21n122 | 9 | 21I ₀ ' |
| 21n520 | 10 | 高压侧 | | 10 | |
| 21n522 | 11 | 遥控 | | 11 | |
| 21CLP2-1 | 12 | 遥控 | | | |
| 21n524 | 13 | 备用 | 21ZKK-1 | 12 | 21U _a |
| 21n526 | 14 | | 31D12 | 12' | 8D10 |
| | 15 | | 21ZKK-3 | 13 | 21U _b |
| 21D20 | 16 | 开入 | 31D13 | 13' | 8D11 |
| | 17 | 公共 | 21ZKK-5 | 14 | 21U _c |
| | 18 | | 31D14 | 14' | |
| 21n306 | 19 | | 21n104 | 15 | 21U _n |
| 21n307 | 20 | 开入 | 31D15 | 15' | |
| 21n308 | 21 | | 21n106 | 16 | 21U _{0n} |
| 21n309 | 22 | | 21n105 | 17 | 21U ₀ |
| 21n310 | 23 | | | 17' | |
| 21n311 | 24 | | | 18 | |
| 21n312 | 25 | | 21n303 | 19 | 21K-2 |
| 21n313 | 26 | | 21CD16 | 20 | 电源正 |
| 21n314 | 27 | | 21LP1-1 | 21 | 输入 |
| 21n315 | 28 | 开入 | | 22 | 公共正 |
| 21n316 | 29 | | | 23 | |
| 21n317 | 30 | | 21n327 | 24 | 复压 |
| | 31 | | | 25 | 启动 |
| | 32 | | | 26 | |
| 21n305 | 33 | 开入负 | 21n501 | 27 | 通信 |
| | | | 21n429 | 28 | |
| | | | 21n502 | 29 | |
| | | | 21n503 | 30 | |
| | | | 21n504 | 31 | |
| | | | 21n430 | 32 | |
| | | | | 33 | |
| | | | 21n304 | 34 | 21K-4 |
| | | | 21CD33 | 35 | 电源负 |
| | | | | 36 | |
| | | | 21n421 | 37 | 复压 |
| | | | 21LP9-1 | 38 | 动作 |
| | | | | | 31D22 |
| | | | | | 31D25 |

| SWI | | | SWI | | | SWI | | | F 4 | | | DC | | | COM | | |
|---------|--------|-------|---------|--------|-----|--------|--------|------|------|------|------|------|------|------|------|--------|-----|
| 控制电源正 | 601 | 43D1 | 控制电源正 | 501 | 401 | 冷控失电跳闸 | 备用一输出 | 装置闭锁 | 运行报警 | 跳闸输入 | 电源正 | 电源地 | 201 | 接地柱 | 以太网A | 以太网B | |
| | 602 | | | 502 | | | | | | | | | 202 | | | | |
| 控制电源负 | 603 | 43D27 | 控制电源负 | 503 | 403 | 4nA04 | 4LP5-2 | 4D24 | 4D28 | 4D25 | 4D29 | 4D16 | 4D4 | 4D21 | 4D23 | 4D27 | PD2 |
| 跳闸线圈 | 604 | 43D21 | 跳闸线圈 | 504 | 404 | | | | | | | | | | | | |
| 合位监视负 | 605 | 43D22 | 合位监视负 | 505 | 405 | 4D22 | 4D28 | 4D25 | 4D29 | 4D16 | 4D4 | 4D21 | 4D23 | 4D27 | PD2 | 4LP9-2 | PD7 |
| 合闸线圈 | 606 | 43D24 | 合闸线圈 | 506 | 406 | | | | | | | | | | | | |
| 跳位监视负 | 607 | 43D25 | 跳位监视负 | 507 | 407 | 4D22 | 4D28 | 4D25 | 4D29 | 4D16 | 4D4 | 4D21 | 4D23 | 4D27 | PD2 | 4LP9-2 | PD7 |
| 保护合闸入口 | 608 | 43D14 | 保护合闸入口 | 508 | 408 | | | | | | | | | | | | |
| 保护跳闸入口 | 609 | 43D9 | 保护跳闸入口 | 509 | 409 | 4D22 | 4D28 | 4D25 | 4D29 | 4D16 | 4D4 | 4D21 | 4D23 | 4D27 | PD2 | 4LP9-2 | PD7 |
| 手动合闸入口 | 610 | 43D12 | 手动合闸入口 | 510 | 410 | | | | | | | | | | | | |
| 手动跳闸入口 | 611 | 43D6 | 手动跳闸入口 | 511 | 411 | 4D22 | 4D28 | 4D25 | 4D29 | 4D16 | 4D4 | 4D21 | 4D23 | 4D27 | PD2 | 4LP9-2 | PD7 |
| 合闸压力低入口 | 612 | 43D17 | 合闸压力低入口 | 512 | 412 | | | | | | | | | | | | |
| 跳闸压力低入口 | 613 | 43D18 | 跳闸压力低入口 | 513 | 413 | 4D22 | 4D28 | 4D25 | 4D29 | 4D16 | 4D4 | 4D21 | 4D23 | 4D27 | PD2 | 4LP9-2 | PD7 |
| 压力异常入口 | 614 | 43D19 | 压力异常入口 | 514 | 414 | | | | | | | | | | | | |
| 通信 | 公共 | 615 | 43D32 | 公共 | 515 | 4D22 | 4D28 | 4D25 | 4D29 | 4D16 | 4D4 | 4D21 | 4D23 | 4D27 | PD2 | 4LP9-2 | PD7 |
| | 控制回路断线 | 616 | 43D36 | 控制回路断线 | 516 | | | | | | | | | | | | |
| | 跳闸压力低 | 617 | 43D37 | 跳闸压力低 | 517 | | | | | | | | | | | | |
| 信号 | 合闸压力低 | 618 | 43D38 | 合闸压力低 | 518 | 4D22 | 4D28 | 4D25 | 4D29 | 4D16 | 4D4 | 4D21 | 4D23 | 4D27 | PD2 | 4LP9-2 | PD7 |
| | 公共 | 619 | 43D30 | 公共 | 519 | | | | | | | | | | | | |
| | 跳闸位置 | 620 | 43D33 | 跳闸位置 | 520 | | | | | | | | | | | | |
| 信号 | 合闸位置 | 621 | 43D34 | 合闸位置 | 521 | 4D22 | 4D28 | 4D25 | 4D29 | 4D16 | 4D4 | 4D21 | 4D23 | 4D27 | PD2 | 4LP9-2 | PD7 |
| | 公共 | 622 | 43D44 | 公共 | 522 | | | | | | | | | | | | |
| | 跳闸位置 | 623 | 43D45 | 跳闸位置 | 523 | | | | | | | | | | | | |
| 跳闸位置 | 合闸位置 | 624 | 43D46 | 合闸位置 | 524 | 4D22 | 4D28 | 4D25 | 4D29 | 4D16 | 4D4 | 4D21 | 4D23 | 4D27 | PD2 | 4LP9-2 | PD7 |
| | 公共 | 625 | 43D40 | 公共 | 525 | | | | | | | | | | | | |
| 事故总 | 626 | 43D42 | 跳闸位置 | 526 | 425 | 4D22 | 4D28 | 4D25 | 4D29 | 4D16 | 4D4 | 4D21 | 4D23 | 4D27 | PD2 | 4LP9-2 | PD7 |
| | 627 | 43D31 | | 527 | | | | | | | | | | | | | |
| 合后位置 | 628 | 43D35 | 事故总 | 528 | 426 | 4D22 | 4D28 | 4D25 | 4D29 | 4D16 | 4D4 | 4D21 | 4D23 | 4D27 | PD2 | 4LP9-2 | PD7 |
| | 629 | 43D41 | | 529 | | | | | | | | | | | | | |
| 合后位置 | 630 | 43D43 | 合后位置 | 530 | 427 | 4D22 | 4D28 | 4D25 | 4D29 | 4D16 | 4D4 | 4D21 | 4D23 | 4D27 | PD2 | 4LP9-2 | PD7 |
| | | | | | | | | | | | | | | | | | |



说明: 图中标“&”号的为对时网络,使用Belden专用双绞线

| | | |
|----------|-----|--|
| L2 | | |
| I 母刀闸常开 | C01 | |
| I 母刀闸常闭 | C02 | |
| II 母刀闸常开 | C03 | |
| II 母刀闸常闭 | C04 | |
| 电源负 | C05 | |
| | C06 | |
| 1UA1 | C07 | |
| 1UA2 | C08 | |
| 1UA | C09 | |
| 1UB1 | C10 | |
| 1UB2 | C11 | |
| 1UB | C12 | |
| 1UC1 | C13 | |
| 1UC2 | C14 | |
| 1UC | C15 | |
| 1UL1 | C16 | |
| 1UL2 | C17 | |
| 1UL | C18 | |
| 2UA1 | C19 | |
| 2UA2 | C20 | |
| 2UA | C21 | |
| 2UB1 | C22 | |
| 2UB2 | C23 | |
| 2UB | C24 | |
| 2UC1 | C25 | |
| 2UC2 | C26 | |
| 2UC | C27 | |
| 信号公共 | C28 | |
| 同时动作 | C29 | |
| PT 失压 | C30 | |

| | | |
|----------|-----|--|
| L1 | | |
| I 母刀闸常开 | B01 | |
| I 母刀闸常闭 | B02 | |
| II 母刀闸常开 | B03 | |
| II 母刀闸常闭 | B04 | |
| 电源负 | B05 | |
| | B06 | |
| 1UA1 | B07 | |
| 1UA2 | B08 | |
| 1UA | B09 | |
| 1UB1 | B10 | |
| 1UB2 | B11 | |
| 1UB | B12 | |
| 1UC1 | B13 | |
| 1UC2 | B14 | |
| 1UC | B15 | |
| 1UL1 | B16 | |
| 1UL2 | B17 | |
| 1UL | B18 | |
| 2UA1 | B19 | |
| 2UA2 | B20 | |
| 2UA | B21 | |
| 2UB1 | B22 | |
| 2UB2 | B23 | |
| 2UB | B24 | |
| 2UC1 | B25 | |
| 2UC2 | B26 | |
| 2UC | B27 | |
| 信号公共 | B28 | |
| 同时动作 | B29 | |
| PT 失压 | B30 | |

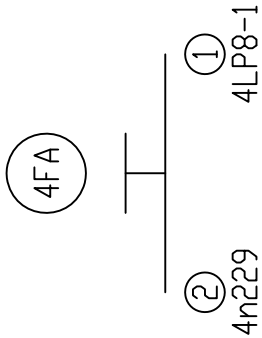
| | | |
|--------|-----|--------|
| F3 | | |
| 电源正 | A01 | 4n902 |
| | A02 | |
| 跳闸出口公共 | A03 | 4n904 |
| | A04 | 4n301 |
| 中央信号公共 | A05 | |
| | A06 | |
| 遥信信号公共 | A07 | 4n908 |
| | A08 | |
| 电源负 | A09 | 4n910 |
| | A10 | |
| | A11 | |
| | A12 | |
| | A13 | |
| | A14 | |
| | A15 | |
| | A16 | |
| | A17 | |
| | A18 | |
| 备用2 输入 | A19 | 4D14 |
| 备用3 输入 | A20 | 4D15 |
| | A21 | |
| | A22 | |
| 备用2 信号 | A23 | |
| 备用3 信号 | A24 | |
| 备用2 输出 | A25 | 4LP6-2 |
| 备用3 输出 | A26 | 4LP7-2 |
| | A27 | |
| | A28 | |
| 备用2 遥信 | A29 | 4D38 |
| 备用3 遥信 | A30 | 4D39 |

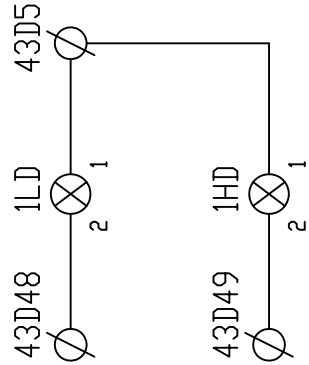
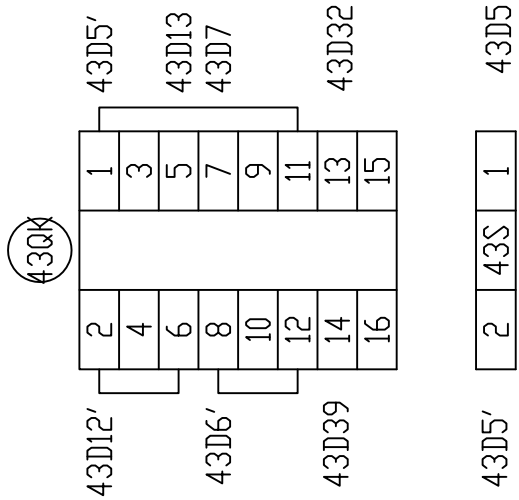
| | | |
|---------|-----|--------|
| F2 | | |
| 电源正 | 901 | 4n802 |
| | 902 | 4nA01 |
| 跳闸出口公共 | 903 | 4n804 |
| | 904 | 4nA03 |
| 中央信号公共 | 905 | |
| | 906 | |
| 遥信信号公共 | 907 | 4n808 |
| | 908 | 4nA07 |
| 电源负 | 909 | 4n810 |
| | 910 | 4nA09 |
| | 911 | |
| | 912 | |
| | 913 | |
| | 914 | |
| | 915 | |
| | 916 | |
| 冷控失电输入 | 917 | 4D10 |
| 本体轻瓦斯输入 | 918 | 4D11 |
| 本体重瓦斯输入 | 919 | 4D12 |
| 压力释放输入 | 920 | 4D13 |
| 冷控失电信号 | 921 | |
| 本体轻瓦斯信号 | 922 | |
| 本体重瓦斯信号 | 923 | |
| 压力释放信号 | 924 | |
| 本体重瓦斯输出 | 925 | 4LP1-2 |
| 压力释放输出 | 926 | 4LP3-2 |
| 冷控失电遥信 | 927 | 4D34 |
| 本体轻瓦斯遥信 | 928 | 4D35 |
| 本体重瓦斯遥信 | 929 | 4D36 |
| 压力释放遥信 | 930 | 4D37 |

| | | |
|---------|-----|--------|
| F1 | | |
| 电源正 | 801 | 4D2 |
| | 802 | 4n901 |
| 跳闸出口公共 | 803 | 4D3 |
| | 804 | 4n903 |
| 中央信号公共 | 805 | |
| | 806 | |
| 遥信信号公共 | 807 | 4D26 |
| | 808 | 4n907 |
| 电源负 | 809 | 4D21 |
| | 810 | 4n909 |
| | 811 | |
| | 812 | |
| | 813 | |
| | 814 | |
| | 815 | |
| | 816 | |
| 油温高输入 | 817 | 4D6 |
| 有载轻瓦斯输入 | 818 | 4D7 |
| 有载重瓦斯输入 | 819 | 4D8 |
| 备用1 输入 | 820 | 4D9 |
| 油温高信号 | 821 | |
| 有载轻瓦斯信号 | 822 | |
| 有载重瓦斯信号 | 823 | |
| 备用1 信号 | 824 | |
| 有载重瓦斯输出 | 825 | 4LP2-2 |
| 备用1 输出 | 826 | 4LP4-2 |
| 油温高遥信 | 827 | 4D30 |
| 有载轻瓦斯遥信 | 828 | 4D31 |
| 有载重瓦斯遥信 | 829 | 4D32 |
| 备用1 遥信 | 830 | 4D33 |

| | | |
|---------|--------|-----|
| SWI | | |
| 控制电源正 | 701 | |
| | 702 | |
| 控制电源负 | 703 | |
| 跳闸线圈 | 704 | |
| 合位监视负 | 705 | |
| 合闸线圈 | 706 | |
| 跳位监视负 | 707 | |
| 保护合闸入口 | 708 | |
| 保护跳闸入口 | 709 | |
| 手动合闸入口 | 710 | |
| 手动跳闸入口 | 711 | |
| 合闸压力低入口 | 712 | |
| 跳闸压力低入口 | 713 | |
| 压力异常入口 | 714 | |
| 遥信 | 公共 | 715 |
| | 控制回路断线 | 716 |
| | 跳闸压力低 | 717 |
| 信号 | 合闸压力低 | 718 |
| | 公共 | 719 |
| | 跳闸位置 | 720 |
| 信号 | 合闸位置 | 721 |
| | 公共 | 722 |
| | 跳闸位置 | 723 |
| | 合闸位置 | 724 |
| | 跳闸位置 | 725 |
| | | 726 |
| 事故总 | | 727 |
| | | 728 |
| 合后位置 | | 729 |
| | | 731 |

| 4D | | | |
|--------|----|---|--------|
| 4K-2 | 1 | 0 | 4n203 |
| | 2 | 0 | 4n801 |
| | 3 | 0 | 4n803 |
| | 4 | 0 | 4n310 |
| | 5 | 0 | 4LP8-1 |
| | 6 | | 4n817 |
| | 7 | | 4n818 |
| | 8 | | 4n819 |
| | 9 | | 4n820 |
| | 10 | | 4n917 |
| | 11 | | 4n918 |
| | 12 | | 4n919 |
| | 13 | | 4n920 |
| | 14 | | 4nA19 |
| | 15 | | 4nA20 |
| 4LP1-1 | 16 | 0 | 4n309 |
| | 17 | 0 | |
| | 18 | | |
| 4K-4 | 19 | 0 | 4n204 |
| | 20 | 0 | 4n205 |
| 4n312 | 21 | 0 | 4n809 |
| | 22 | | |
| | 23 | 0 | 4n313 |
| | 24 | 0 | 4n305 |
| | 25 | 0 | 4n307 |
| | 26 | 0 | 4n807 |
| | 27 | | 4n314 |
| | 28 | | 4n306 |
| | 29 | | 4n308 |
| | 30 | | 4n827 |
| | 31 | | 4n828 |
| | 32 | | 4n829 |
| | 33 | | 4n830 |
| | 34 | | 4n927 |
| | 35 | | 4n928 |
| | 36 | | 4n929 |
| | 37 | | 4n930 |
| | 38 | | 4nA29 |
| | 39 | | 4nA30 |
| | 40 | | |





| 43D (低压制) | | | |
|-----------|-----|------|---------------|
| PD11 | 1 | 0 | 4n601 |
| | 2 | 0 | 43K-2 |
| | 3 | 0 | 直流正 |
| | 4 | 0 | |
| | 5 | 0 | |
| 1LD-1 | | | 21CD9 |
| 43QK-1 | 5' | | 43S-1 |
| | | | 43S-2 |
| | 6 | 0 | 4n611 |
| | 6' | 0 | 43QK-8 |
| 21CD10 | 7 | 遥跳 | 43QK-7 |
| | 8 | | |
| ND11 | 9 | 0 | 4n609 |
| | 10 | 0 | 保护跳 |
| | 11 | | |
| | 12 | 0 | 4n610 |
| | 12' | 0 | 43QK-2 |
| 21CD11 | 13 | 遥合 | 43QK-5 |
| | 14 | 0 | 4n608 |
| | 15 | 0 | 保护合 |
| | 16 | | |
| | 17 | 合压低 | 4n612 |
| | 18 | 跳压低 | 4n613 |
| | 19 | 压力异常 | 4n614 |
| | 20 | | |
| | 21 | 0 | 4n604 |
| | 22 | 0 | 4n605 |
| | 23 | | |
| | 24 | 合闸 | 4n606 |
| | 25 | 跳闸 | 4n607 |
| | 26 | | |
| | 27 | 0 | 4n603 |
| | 28 | 0 | 43K-4 |
| | 29 | | |
| | 30 | 0 | 4n619 |
| | 31 | 0 | 4n627 |
| 21CD16 | 32 | 0 | 4n615,43QK-13 |
| | 33 | | 4n620 |
| | 34 | | 4n621 |
| 21CD20 | 35 | | 4n628 |
| 21CD21 | 36 | | 4n616 |
| | 37 | | 4n617 |
| | 38 | | 4n618 |
| 21CD22 | 39 | | 43QK-14 |
| | 40 | 0 | 4n625 |
| | 41 | 0 | 4n629 |
| | 42 | | 4n626 |
| | 43 | | 4n630 |
| | 43' | | |
| | 44 | | 4n622 |
| | 45 | | 4n623 |
| | 46 | | 4n624 |
| | 47 | | |
| | 48 | | 1LD-2 |
| | 49 | | 1HD-2 |
| | 50 | | |

| ND | | | |
|----------|------|------|---------|
| 1LP4-1 | Q 1 | | 13RD23 |
| 4LP9-1 | Q 2 | 跳主变 | |
| 31LP6-1 | Q 3 | 高压侧负 | 21LP8-1 |
| | Q 4 | | |
| | 5 | | |
| 1LP5-1 | Q 6 | | |
| 4LP10-1 | Q 7 | 跳主变 | |
| 31LP7-1 | Q 8 | 备用侧负 | |
| | Q 9 | | |
| | 10 | | |
| 1LP6-1 | Q 11 | | 43D9 |
| 4LP11-1 | Q 12 | 跳主变 | |
| 31LP8-1 | Q 13 | 低压侧负 | |
| 21LP7-1 | Q 14 | | 13KD4 |
| | 15 | | |
| 1LP7-1 | Q 16 | 启动 | |
| 4LP12-1 | Q 17 | 快切负 | 13LP6-1 |
| 31LP9-1 | Q 18 | 闭锁 | |
| 21LP6-1 | Q 19 | 快切负 | |
| | 20 | | |
| 1LP8-1 | Q 21 | | |
| 4LP13-1 | Q 22 | 跳主变 | |
| 31LP10-1 | Q 23 | 备用侧负 | |
| | Q 24 | | |
| | 25 | | |
| 31LP11-1 | Q 26 | 高压侧跳 | |
| | Q 27 | 闭备用负 | |
| | 28 | | |
| 31LP12-1 | Q 29 | 高压侧跳 | |
| | Q 30 | 闭备用负 | |
| | 31 | | |
| 31LP13-1 | Q 32 | 高压侧跳 | |
| | Q 33 | 闭备用负 | |
| | 34 | | |
| 31LP14-1 | Q 35 | 高压侧跳 | |
| | Q 36 | 闭备用负 | |
| | 37 | | |
| 21LP5-1 | Q 38 | 跳低压侧 | |
| | Q 39 | 分母负 | |
| | 40 | | |
| | Q 41 | | |
| | Q 42 | | |
| | 43 | | |
| 31LP15-1 | Q 44 | 闭锁有载 | |
| | Q 45 | 调压负 | |
| | 46 | | |
| 31LP16-1 | Q 47 | 启动风冷 | |
| | Q 48 | 负 | |
| | 49 | | |

| PD | | | |
|--------|------|------|--------|
| 1n409 | Q 1 | | 13RD4 |
| 4n315 | Q 2 | 跳主变 | |
| 31n405 | Q 3 | 高压侧正 | 21n413 |
| | Q 4 | | |
| | 5 | | |
| 1n411 | Q 6 | | |
| 4n317 | Q 7 | 跳主变 | |
| 31n409 | Q 8 | 备用侧正 | |
| | Q 9 | | |
| | 10 | | |
| 1n413 | Q 11 | | 43D1 |
| 4n319 | Q 12 | 跳主变 | |
| 31n411 | Q 13 | 低压侧正 | |
| 21n409 | Q 14 | | 13KD1 |
| | 15 | | |
| 1n415 | Q 16 | 启动 | |
| 4n321 | Q 17 | 快切正 | 13n427 |
| 31n413 | Q 18 | 闭锁 | |
| 21n407 | Q 19 | 快切正 | |
| | 20 | | |
| 1n417 | Q 21 | | |
| 4n323 | Q 22 | 跳主变 | |
| 31n415 | Q 23 | 备用侧正 | |
| | Q 24 | | |
| | 25 | | |
| 31n417 | Q 26 | 高压侧跳 | |
| | Q 27 | 闭备用正 | |
| | 28 | | |
| 31n419 | Q 29 | 高压侧跳 | |
| | Q 30 | 闭备用正 | |
| | 31 | | |
| 31n505 | Q 32 | 高压侧跳 | |
| | Q 33 | 闭备用正 | |
| | 34 | | |
| 31n507 | Q 35 | 高压侧跳 | |
| | Q 36 | 闭备用正 | |
| | 37 | | |
| 21n405 | Q 38 | 跳低压侧 | |
| | Q 39 | 分母正 | |
| | 40 | | |
| | Q 41 | | |
| | Q 42 | | |
| | 43 | | |
| 31n425 | Q 44 | 闭锁有载 | |
| | Q 45 | 调压正 | |
| | 46 | | |
| 31n427 | Q 47 | 启动风冷 | |
| | Q 48 | 正 | |
| | 49 | | |

OUT

| | | | |
|---------|-----|-----|---------|
| 装置闭锁 | BSJ | 501 | 13XD1 |
| | | 502 | 13XD5 |
| 装置异常 | BJJ | 503 | 13XD2 |
| | | 504 | 13XD6 |
| 跳闸保持信号 | TXJ | 505 | 13XD3 |
| | | 506 | 13XD7 |
| 合闸保持信号 | HXJ | 507 | |
| | | 508 | |
| 保护跳闸出口 | | 509 | 13KD1 |
| | | 510 | 13LP5-2 |
| 保护合闸出口 | | 511 | |
| | | 512 | |
| 遥控跳闸 | | 513 | |
| | | 514 | |
| 遥控合闸 | | 515 | |
| | | 516 | |
| 第二组遥控跳闸 | | 517 | |
| | | 518 | |
| 第二组遥控合闸 | | 519 | |
| | | 520 | |
| 第三组遥控跳闸 | | 521 | |
| | | 522 | |
| 第三组遥控合闸 | | 523 | |
| | | 524 | |
| 收远跳1 动作 | | 525 | |
| | | 526 | |
| 收远跳2 动作 | | 527 | |
| | | 528 | |
| 收远跳3 动作 | | 529 | |
| | | 530 | |

SWI

| | | |
|--------|--------|-----------------|
| 遥控电源+ | 401 | |
| 控制电源+ | 402 | |
| | 403 | |
| 事故总 | 404 | |
| | 405 | |
| 合后位置 | 406 | |
| | 407 | |
| 保护合闸入口 | 408 | |
| 保护跳闸入口 | 409 | |
| 手动合闸入口 | 410 | |
| 手动跳闸入口 | 411 | |
| 遥控合闸出口 | 412 | |
| 遥控跳闸出口 | 413 | |
| 保护跳闸出口 | 414 | |
| 保护合闸出口 | 415 | |
| 跳闸线圈 | 416 | |
| 合位监视负 | 417 | |
| 合闸线圈 | 418 | |
| 跳位监视负 | 419 | |
| 控制电源负 | 420 | |
| 遥信 | 遥信公共 | 421 |
| | 装置闭锁 | 422 |
| | 运行报警 | 423 |
| | 保护跳闸 | 424 |
| | 保护合闸 | 425 |
| | 控制回路断线 | 426 |
| 跳闸出口2 | 427 | PD17 13LP6-2 |
| | 428 | |
| TWJ | 429 | |
| | 430 | |

DC

| | | |
|-------|-----|---------|
| 电源地 | 301 | 接地柱 |
| | 302 | |
| 装置电源正 | 303 | 13RD1 |
| 装置电源负 | 304 | 13RD10 |
| 遥信电源负 | 305 | 13RD11 |
| TWJ | 306 | 13RD13 |
| HWJ | 307 | 13RD14 |
| KKJ | 308 | 13RD15 |
| 遥控投入 | 309 | 13RD16 |
| 开入5 | 310 | 13RD17 |
| 开入6 | 311 | 13RD18 |
| 开入7 | 312 | 13RD19 |
| 开入8 | 313 | 13RD20 |
| 开入9 | 314 | 13RD21 |
| 开入10 | 315 | 13RD22 |
| 开入11 | 316 | |
| 开入12 | 317 | |
| 开入13 | 318 | |
| 开入14 | 319 | |
| 开入15 | 320 | |
| 投低压解列 | 321 | |
| 远跳开入1 | 322 | 13RD23 |
| 远跳开入2 | 323 | 13RD24 |
| 远跳开入3 | 324 | 13LP2-2 |
| 投差动保护 | 325 | 13RD6 |
| 闭锁重合闸 | 326 | 13LP4-2 |
| 投低周减载 | 327 | 13RD8 |
| 弹簧未储能 | 328 | 13FA-2 |
| 信号复归 | 329 | 13LP1-2 |
| 置检修状态 | 330 | |

COM

RX

TX

以太网A

以太网B

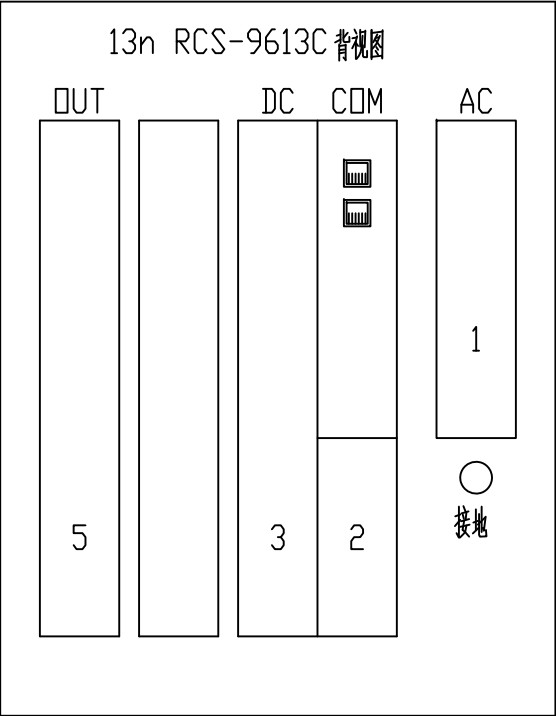
| | | |
|------------------|------|-----|
| 串 口 通 讯 | 485A | 201 |
| | 485B | 202 |
| | GND | 203 |
| | 485A | 204 |
| | 485B | 205 |
| 对 时 | GND | 206 |
| | SYN+ | 207 |
| | SYN- | 208 |
| 打 印 | GND | 209 |
| | RXD | 210 |
| | TXD | 211 |
| | GND | 212 |

AC

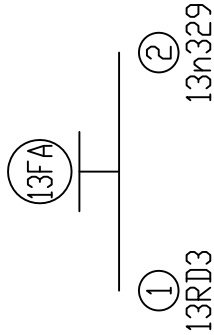
| | | | | | |
|---------|-------|-----|-----|------|---------|
| 13ZKK-2 | 101 | Ua | Ub | 102 | 13ZKK-4 |
| 13ZKK-6 | 103 | Uc | Un | 104 | 13UD4 |
| | 105 | Ux | Uxn | 106 | |
| | 107 | | | 108 | |
| | 109 | | | 110 | |
| | 111 | | | 112 | |
| * | 13ID1 | 113 | Ia | Ia' | 114 |
| * | 13ID2 | 115 | Ib | Ib' | 116 |
| * | 13ID3 | 117 | Ic | Ic' | 118 |
| * | | 119 | Io | Io' | 120 |
| * | | 121 | Iam | Iam' | 122 |
| * | | 123 | Icm | Icm' | 124 |

13ID4 *
13ID5 *
13ID6 *
*
*

○ 13n301
接地

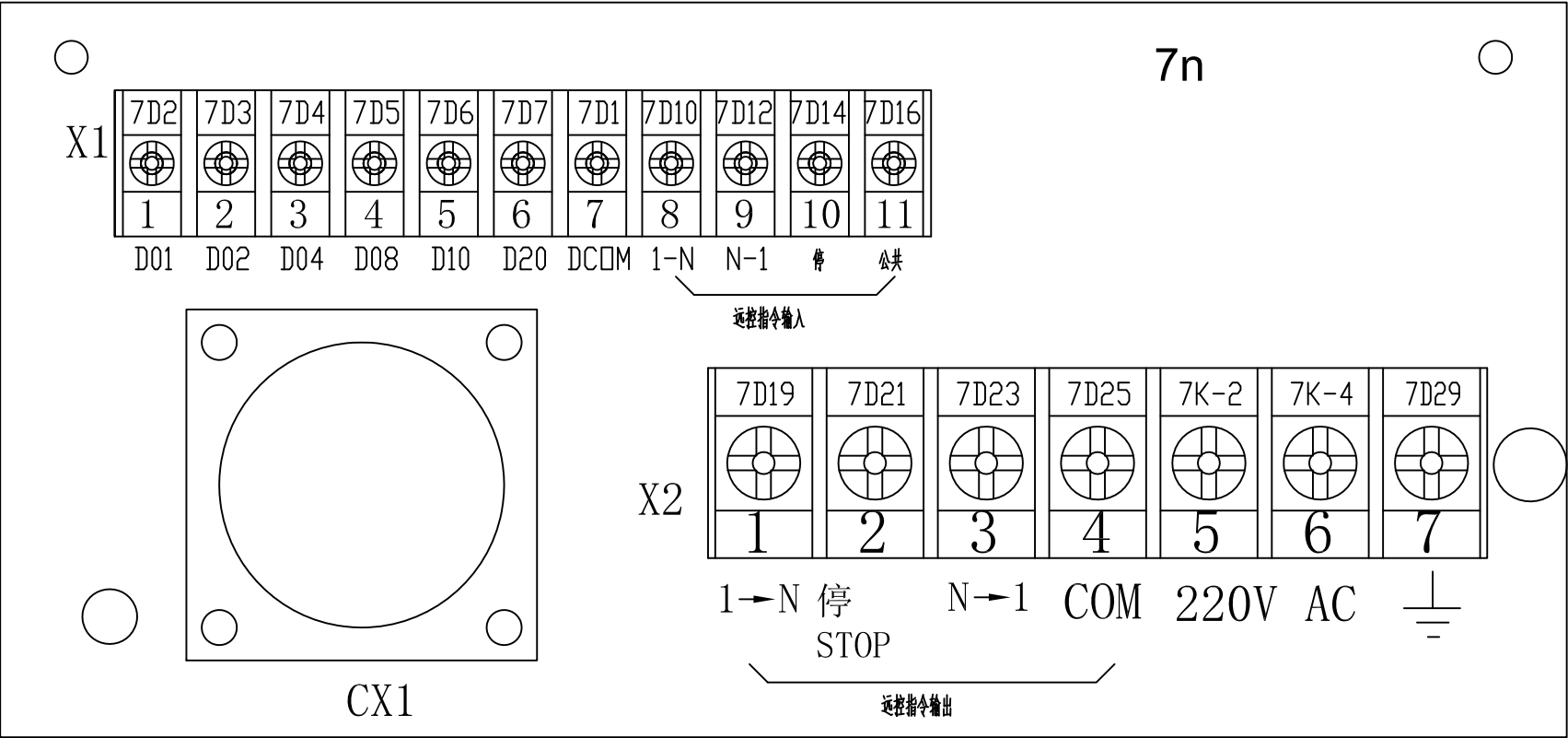


说明: 图中标“*”号的为交流电流回路,
图中标“&”号的为对时网络, 使用专用通讯电缆



| 13KD | | |
|---------|---|------|
| 13n509 | 1 | PD14 |
| | 2 | |
| | 3 | |
| 13LP5-1 | 4 | ND14 |
| | 5 | |
| | 6 | |
| | 7 | |
| | 8 | |
| 13XD | | |
| 13n501 | 1 | |
| 13n503 | 2 | |
| 13n505 | 3 | |
| | 4 | |
| 13n502 | 5 | |
| 13n504 | 6 | |
| 13n506 | 7 | |
| | 8 | |

| 13ID | | |
|---------|----|---------|
| 13n113 | 1 | Ia |
| 13n115 | 2 | Ib |
| 13n117 | 3 | Ic |
| 13n114 | 4 | Ia' |
| 13n116 | 5 | Ib' |
| 13n118 | 6 | Ic' |
| | 7 | |
| | 8 | |
| 13UD | | |
| 13ZKK-1 | 1 | Ua |
| 13ZKK-3 | 2 | Ub |
| 13ZKK-5 | 3 | Uc |
| 13n104 | 4 | Un |
| | 5 | |
| | 6 | |
| 13RD | | |
| 13n303 | 1 | 13K-2 |
| 13LP1-1 | 2 | |
| 13FA-1 | 3 | |
| PD1 | 4 | |
| | 5 | |
| 13n326 | 6 | 13LP3-2 |
| | 7 | |
| 13n328 | 8 | |
| | 9 | |
| 13n304 | 10 | 13K-4 |
| 13n305 | 11 | |
| | 12 | |
| 13n306 | 13 | |
| 13n307 | 14 | |
| 13n308 | 15 | |
| 13n309 | 16 | |
| 13n310 | 17 | |
| 13n311 | 18 | |
| 13n312 | 19 | |
| 13n313 | 20 | |
| 13n314 | 21 | |
| 13n315 | 22 | |
| 13n323 | 23 | ND1 |
| 13n324 | 24 | |



| 7D | | 公共 低位 | | 高位 | |
|---------|---------|---------|----|----------|----------|
| | | 1 | 2 | 3 | 4 |
| 31CD17 | 7nX1-7 | BCD码 输出 | | | |
| 31CD32 | 7nX1-1 | 远控 输入 | | | |
| 31CD33 | 7nX1-2 | | | | |
| 31CD34 | 7nX1-3 | | | | |
| 31CD35 | 7nX1-4 | | | | |
| 31CD36 | 7nX1-5 | | | | |
| 31CD37 | 7nX1-6 | | | | |
| | | 8 | 9 | 远控 输出 | |
| 8D1 | 7nX1-8 | 10 | 11 | | |
| 8D3 | 7nX1-9 | 12 | 13 | | |
| | 7nX1-10 | 14 | 15 | | |
| 8D5 | 7nX1-11 | 16 | 17 | | |
| | | 18 | 19 | | |
| 分接头升 | 7nX2-1 | 20 | 21 | | |
| 分接头停 | 7nX2-2 | 22 | 23 | 远控 输出 | |
| 分接头降 | 7nX2-3 | 24 | 25 | | |
| 公共端 | 7nX2-4 | 26 | 27 | | |
| AC220V线 | 7K-1 | 28 | 29 | | |
| AC220V线 | 8K-1 | 30 | 31 | | |
| 接地 | 7K-3 | 32 | 33 | | |
| | 8K-3 | 34 | 35 | | |
| | 7nX2-7 | 36 | 37 | 7ncx1-1 | 7ncx1-2 |
| | 8n12 | 38 | 39 | 7ncx1-3 | 7ncx1-4 |
| | | 40 | 41 | 7ncx1-5 | 7ncx1-6 |
| | | 42 | 43 | 7ncx1-7 | 7ncx1-8 |
| | | 44 | 45 | 7ncx1-9 | 7ncx1-10 |
| | | 46 | 47 | 7ncx1-11 | 7ncx1-12 |
| | | 48 | 49 | 7ncx1-13 | 7ncx1-14 |
| | | 50 | 51 | 7ncx1-15 | 7ncx1-16 |
| | | 52 | 53 | 7ncx1-17 | 7ncx1-18 |
| | | 54 | 55 | | |
| | | 56 | | | |



8n

| 指令输出 | | | RS485 | | 取样电流 | | 取样电压 | | 工作电源 | | |
|------|-----|-----|-------|---|------|-----|------|------|------|------|------|
| 升 | 降 | 公共 | A | B | 5A | | 100V | | L | N | ⏏ |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | | | | | | | |
| 8D1 | 8D3 | 8D5 | | | 8D7 | 8D8 | 8D10 | 8D11 | 8K-2 | 8K-4 | 7D29 |



| 8D | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|
| 7D10 < | | | | | | | | | |

PRCK96-721

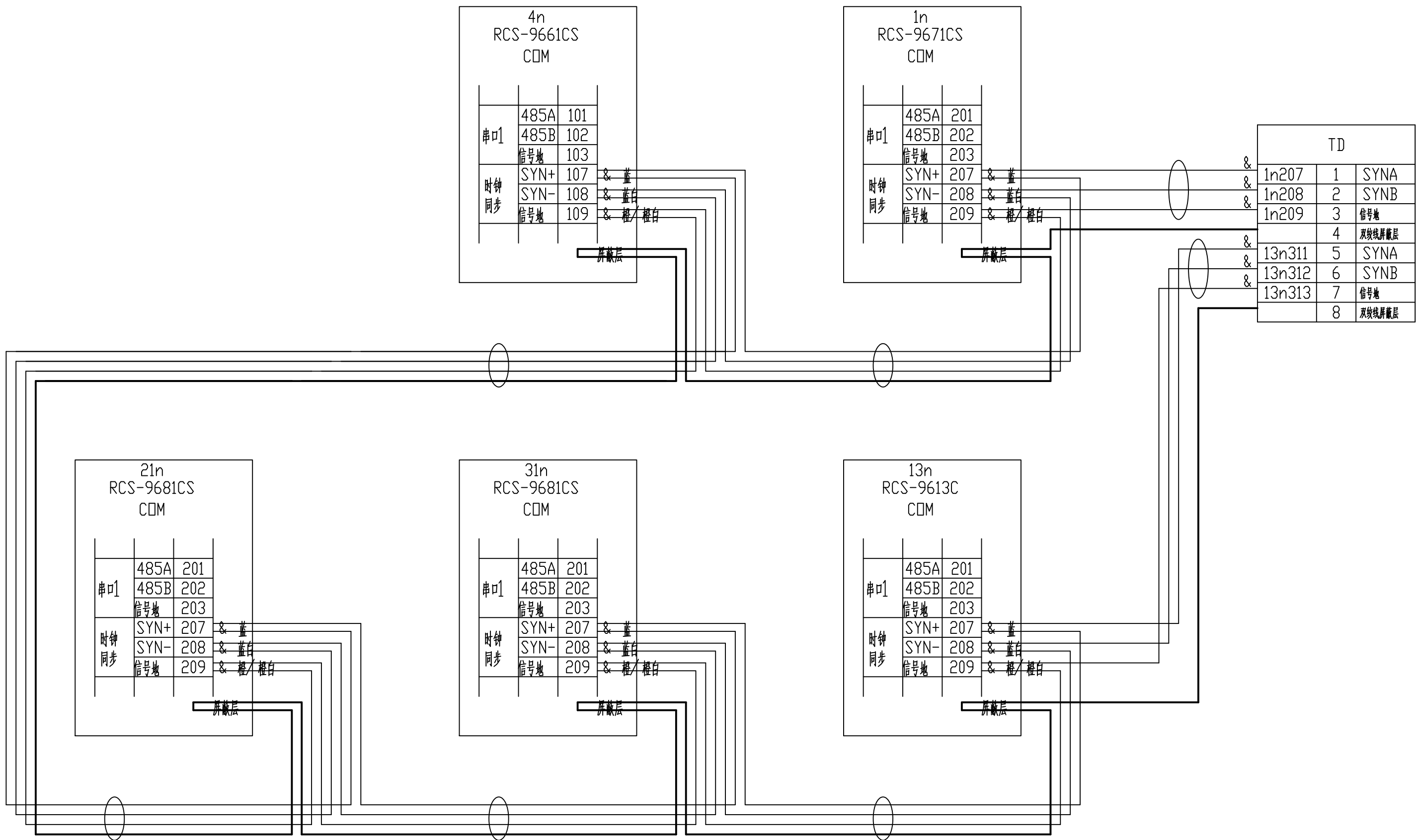
变压器保护测控柜

自动电压调整装置背面接线图

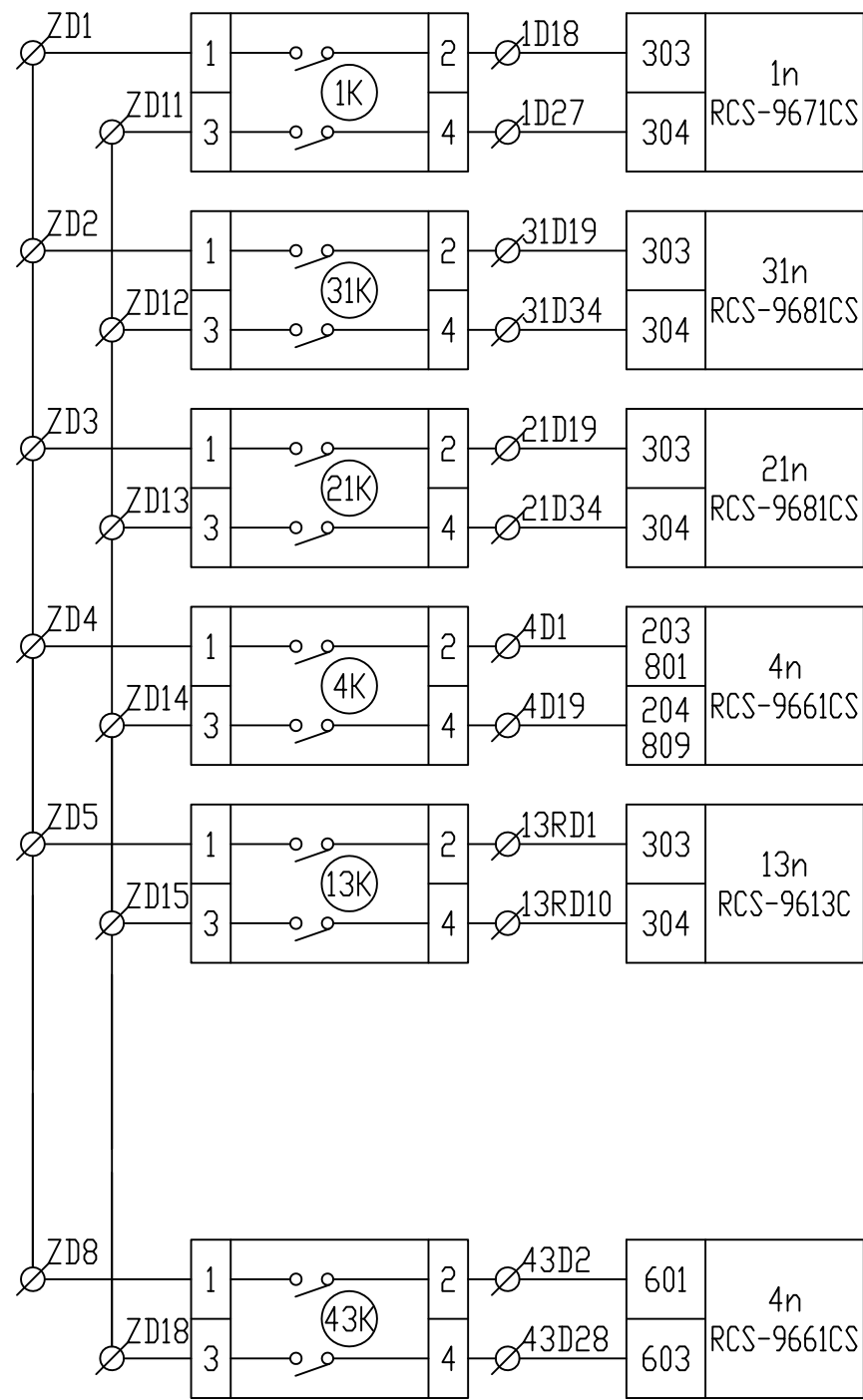
第 18 张 共 28 张

NARI-RELAYS

南京南瑞继保电气有限公司



说明: 图中标“&”号的为对时网络, 使用Belden专用双绞线
将橙/ 橙白两股线并联用于连接信号地
两根双绞线的屏蔽层并联



直流
电源
回路

操作
电源
回路

| | | | |
|------|------|-----|------------------|
| 1Ia1 | 1D1 | 101 | 1n RCS-9671CS |
| 1Ib1 | 1D2 | 103 | |
| 1Ic1 | 1D3 | 105 | |
| 1In1 | 1D4 | 102 | |
| 1Ia2 | 1D5 | 107 | |
| 1Ib2 | 1D6 | 109 | |
| 1Ic2 | 1D7 | 111 | |
| 1In2 | 1D8 | 108 | |
| 1Ia3 | 1D9 | 113 | |
| 1Ib3 | 1D10 | 115 | |
| 1Ic3 | 1D11 | 117 | |
| 1In3 | 1D12 | 114 | |
| 1Ia4 | 1D13 | 119 | |
| 1Ib4 | 1D14 | 121 | |
| 1Ic4 | 1D15 | 123 | |
| 1In4 | 1D16 | 120 | |

| | | | |
|---------------------|-------|-----|-------------------|
| 31Ia | 31D1 | 115 | 31n RCS-9681CS |
| 31Ib | 31D2 | 117 | |
| 31Ic | 31D3 | 119 | |
| 31Ia' | 31D5 | 116 | |
| 31Ib' | 31D6 | 118 | |
| 31Ic' | 31D7 | 120 | |
| 31Io | 31D8 | 121 | |
| 31Io' | 31D9 | 122 | |
| 31Io _g | 31D10 | 123 | |
| 31Io _g ' | 31D11 | 124 | |
| | | | |

| | | | |
|-------|------|-----|-------------------|
| 21Ia | 21D1 | 115 | 21n RCS-9681CS |
| 21Ib | 21D2 | 117 | |
| 21Ic | 21D3 | 119 | |
| 21Ia' | 21D5 | 116 | |
| 21Ib' | 21D6 | 118 | |
| 21Ic' | 21D7 | 120 | |
| 21Io | 21D8 | 121 | |
| 21Io' | 21D9 | 122 | |
| | | | |

| | | | |
|-------|-------|-----|------------------|
| 13Ia | 13ID1 | 113 | 13n RCS-9613C |
| 13Ib | 13ID2 | 115 | |
| 13Ic | 13ID3 | 117 | |
| 13Ia' | 13ID4 | 114 | |
| 13Ib' | 13ID5 | 116 | |
| 13Ic' | 13ID6 | 118 | |

| | |
|-----|----------------|
| 高压侧 | 交流电流回路 保护CT |
| 备用侧 | |
| 备用侧 | |
| 备用侧 | |
| 备用侧 | |
| 备用侧 | |

| | |
|------|----------------|
| 高压侧 | 交流电流回路 保护CT |
| 零序 | |
| 间隙零序 | |
| 间隙零序 | |

| | |
|-----|----------------|
| 低压侧 | 交流电流回路 保护CT |
| 零序 | |
| 零序 | |

| | |
|-----|----------------|
| 高压侧 | 交流电流回路 保护CT |
|-----|----------------|

| | | | | | |
|-------|-------|---|---|-----|-------------------|
| 31Ua | 31D12 | 1 | 2 | 101 | 31n RCS-9681CS |
| 31Ub | 31D13 | 3 | 4 | 102 | |
| 31Uc | 31D14 | 5 | 6 | 103 | |
| 31Un | 31D15 | | | 104 | |
| 31Uon | 31D16 | | | 106 | |
| 31Uo | 31D17 | | | 105 | |

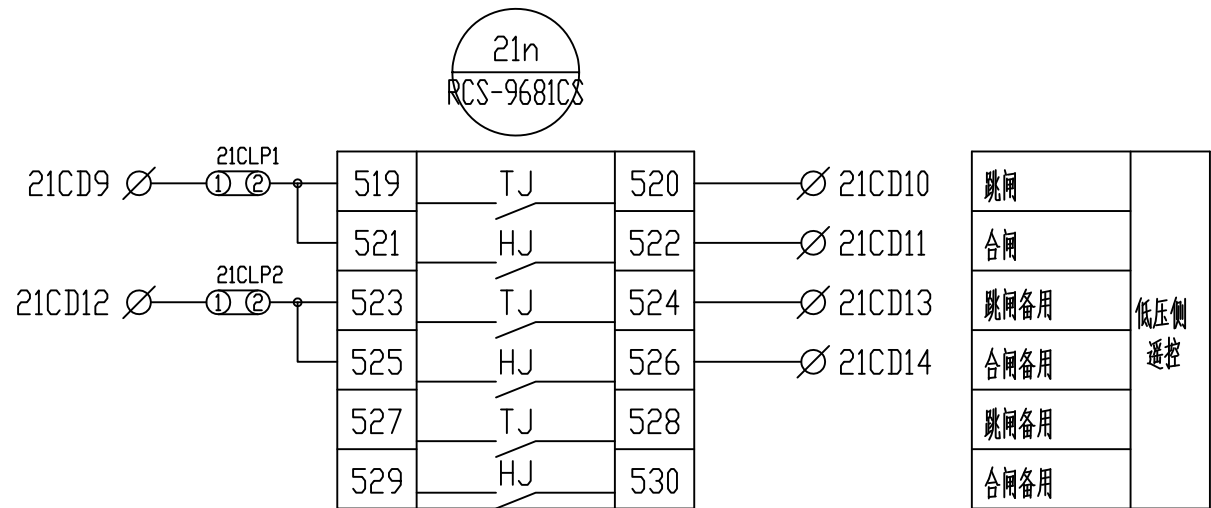
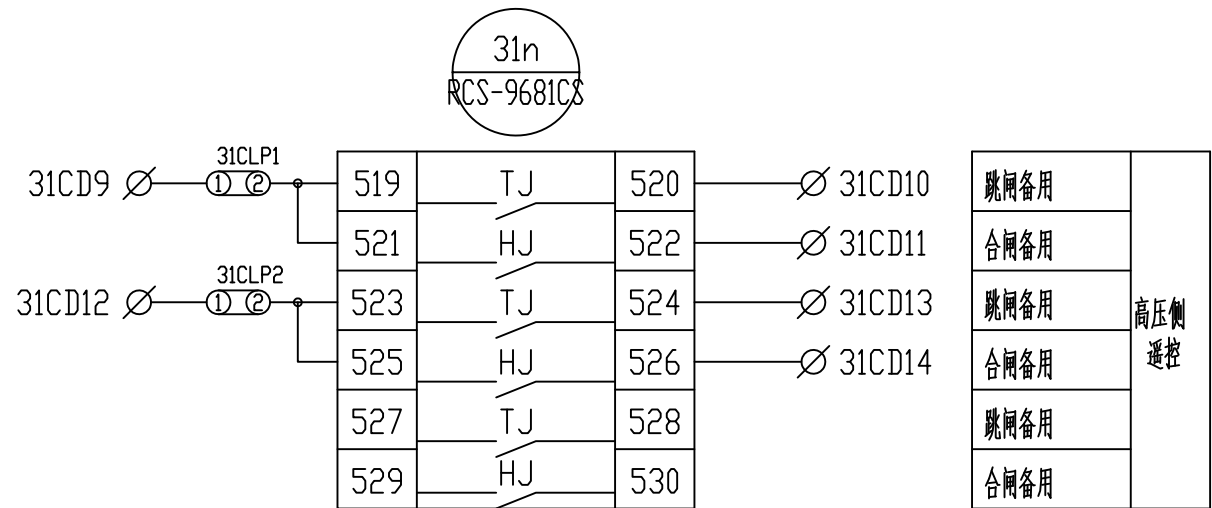
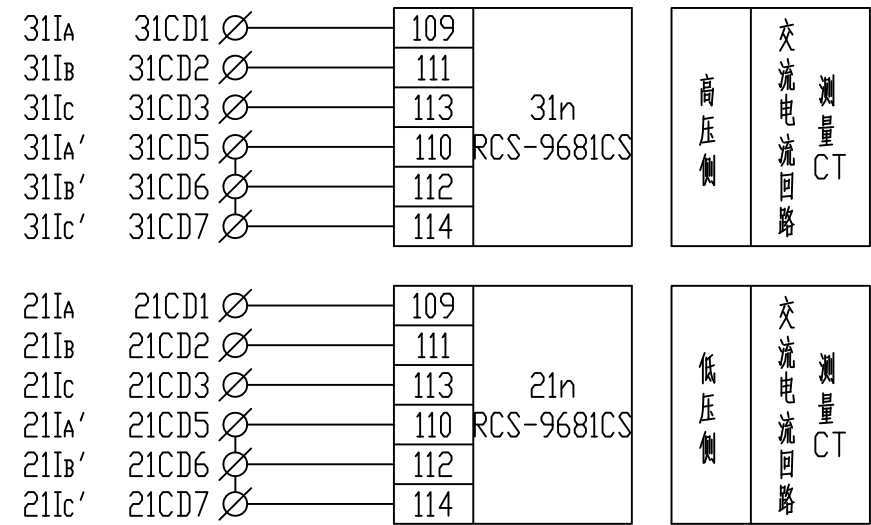
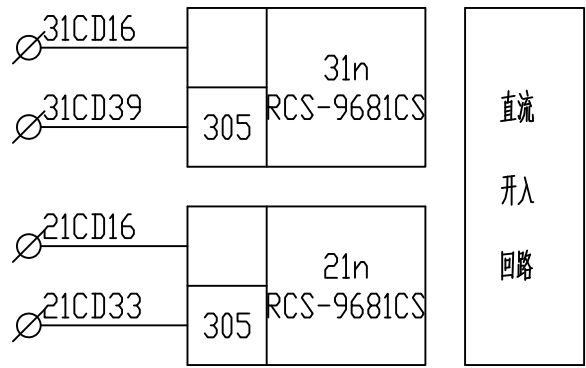
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| 21Ub | 21D13 | 3 | 4 | 102 | |
| 21Uc | 21D14 | 5 | 6 | 103 | |
| 21Un | 21D15 | | | 104 | |
| 21Uon | 21D16 | | | 106 | |
| 21Uo | 21D17 | | | 105 | |

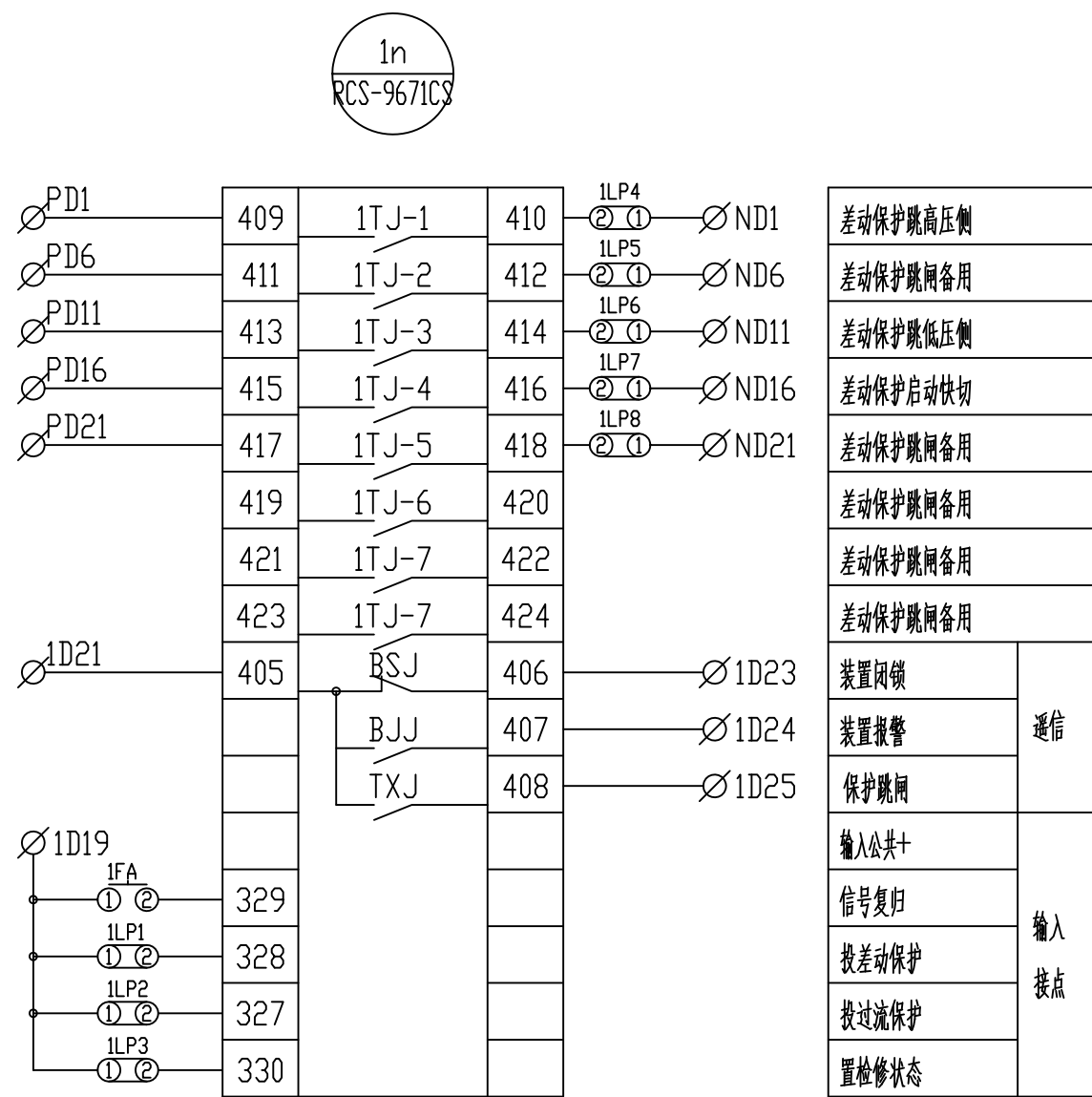
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| 13Uc | 13UD3 | 5 | 6 | 103 | |
| 13Un | 13UD4 | | | 104 | |

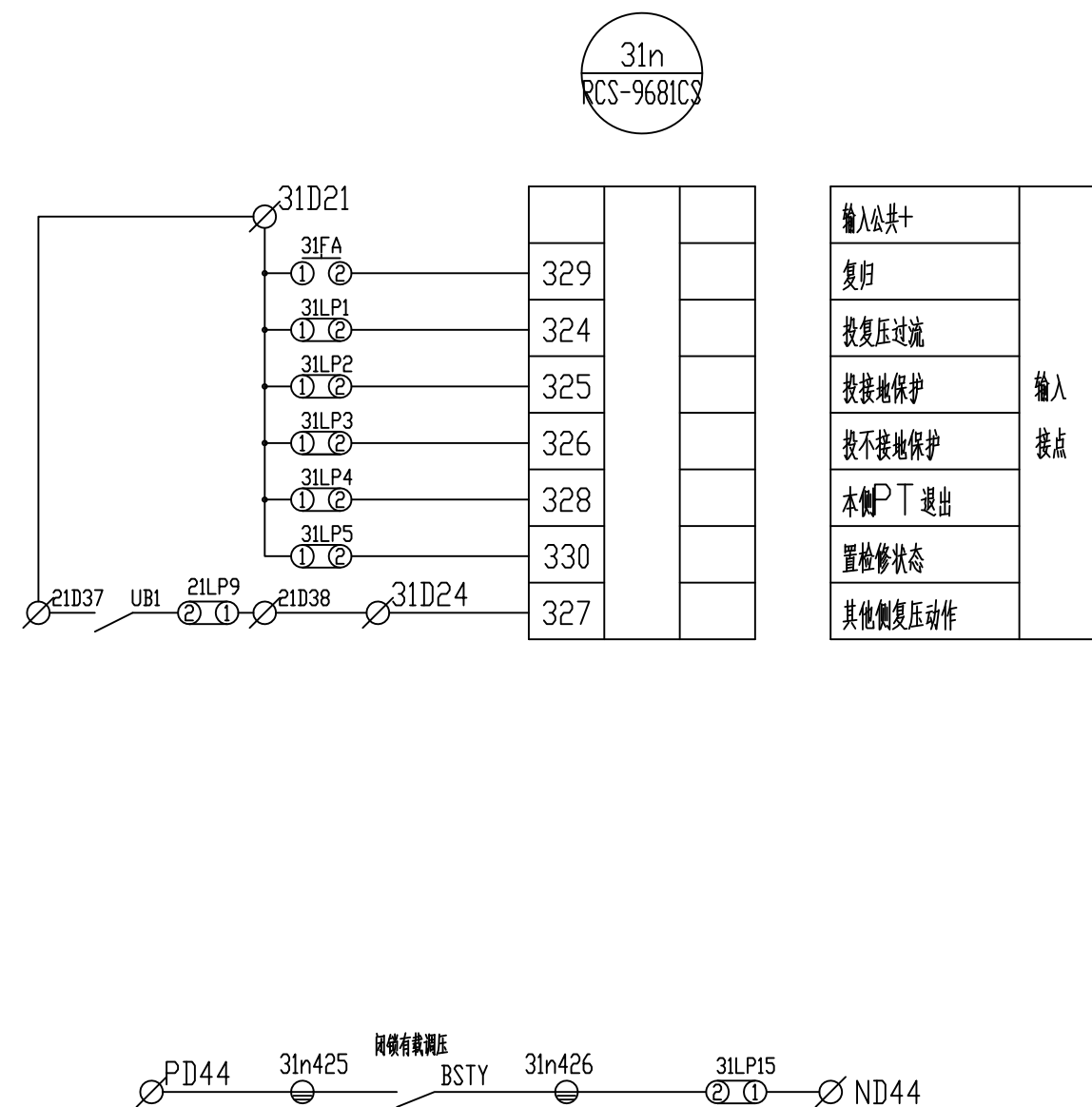
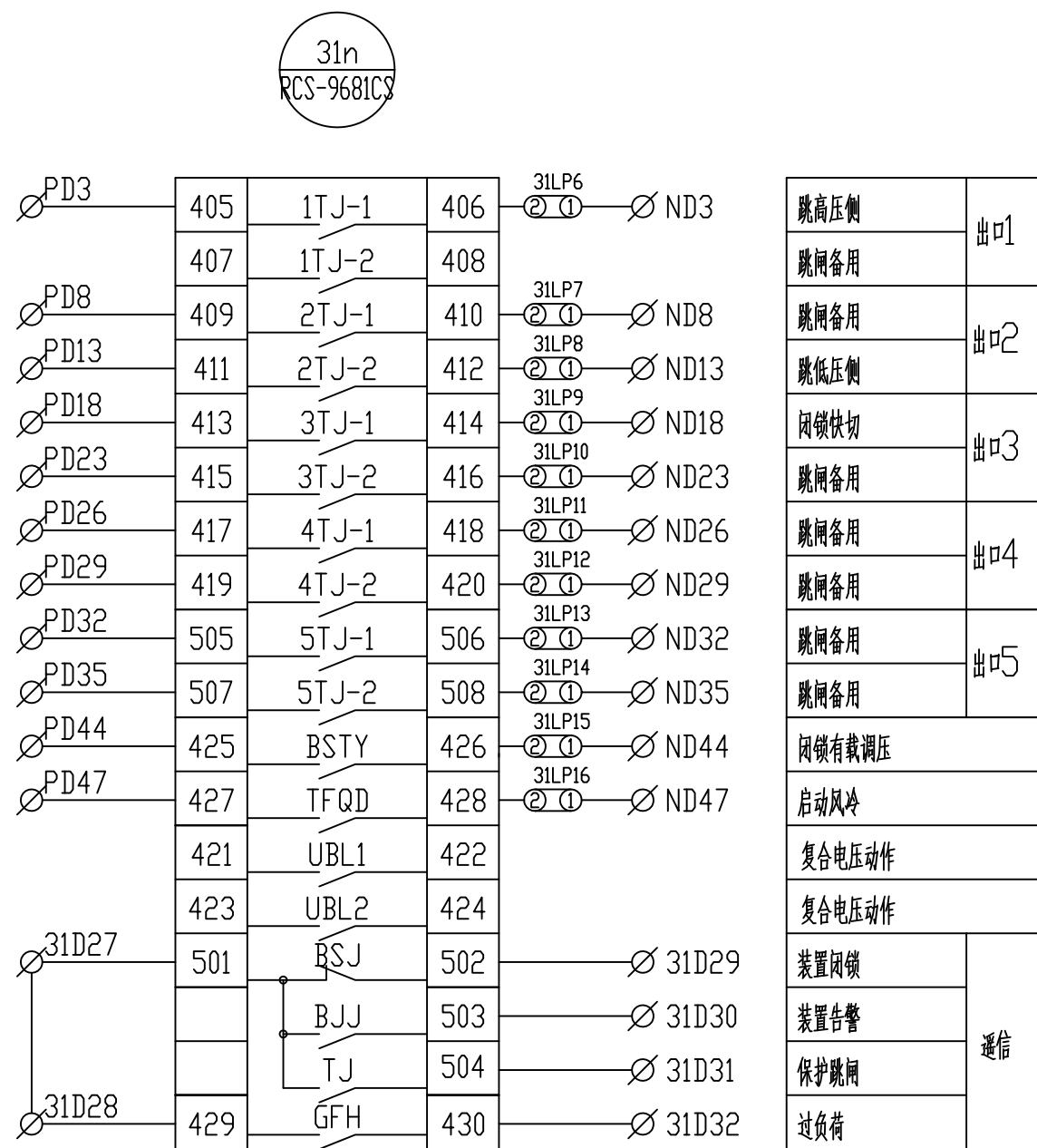
| | |
|-----|--------|
| 高压侧 | 交流电压回路 |
| 零序 | |

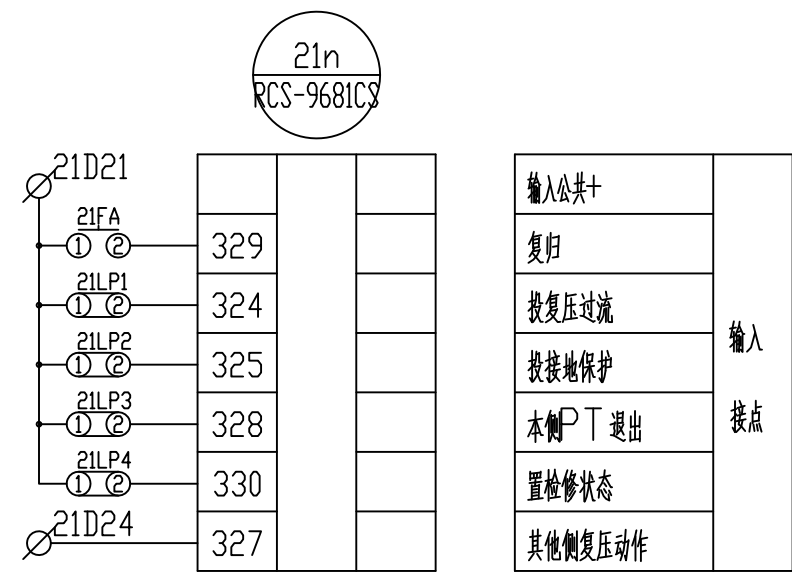
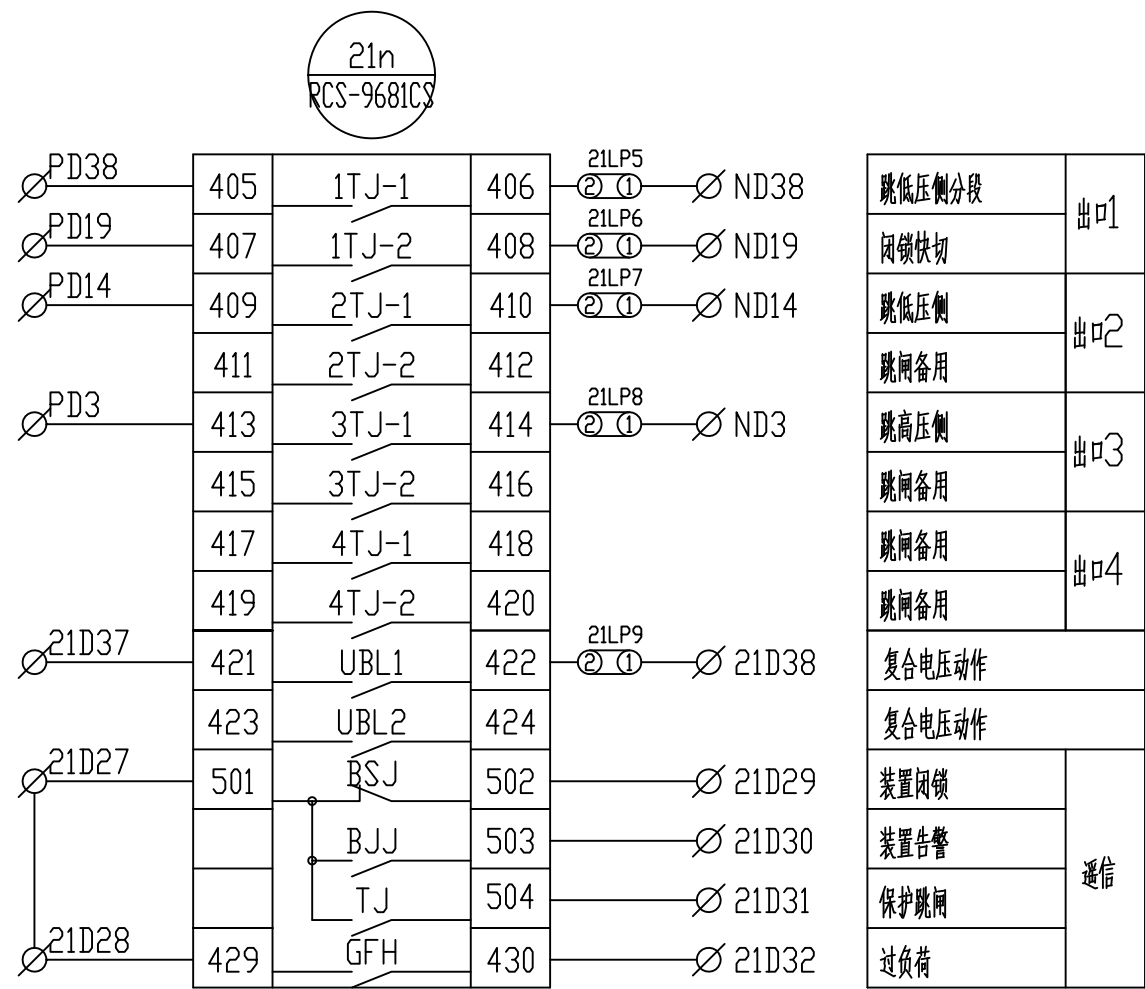
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| 低压侧 | 交流电压回路 |
| 零序 | |

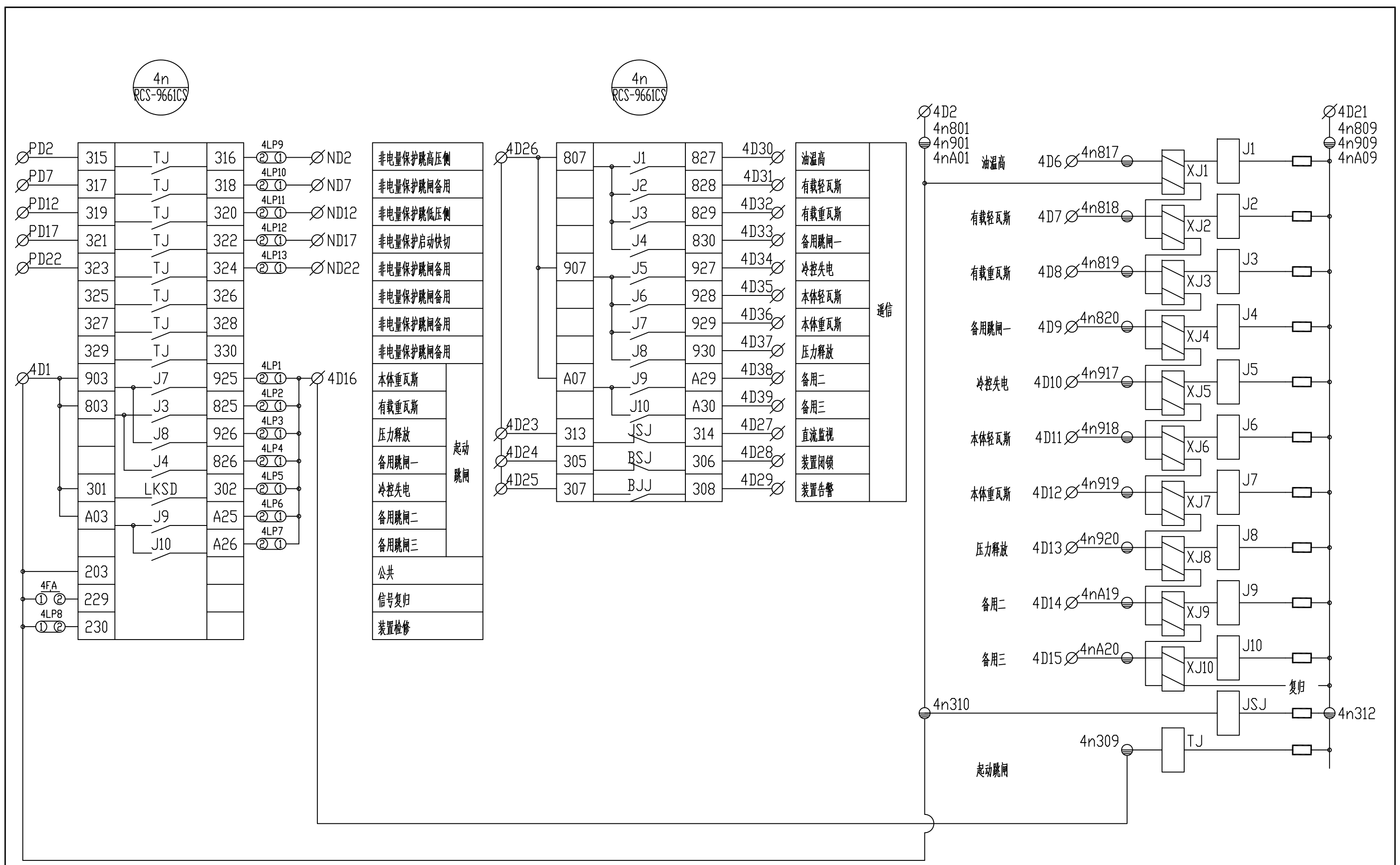
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| 高压侧 | 交流电压回路 |
|-----|--------|

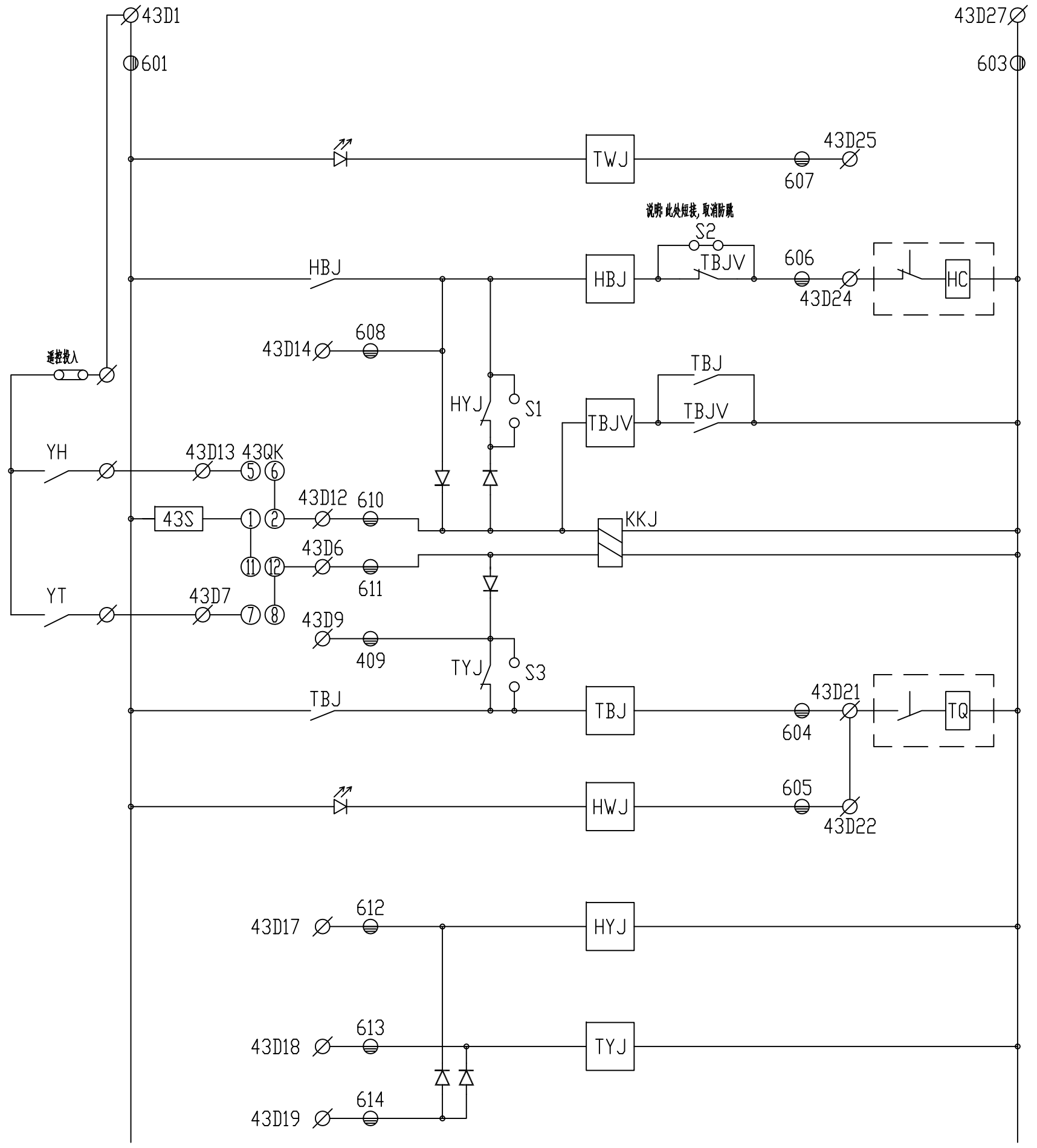








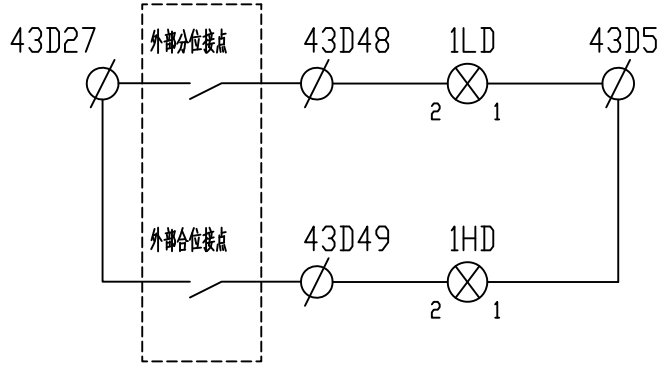
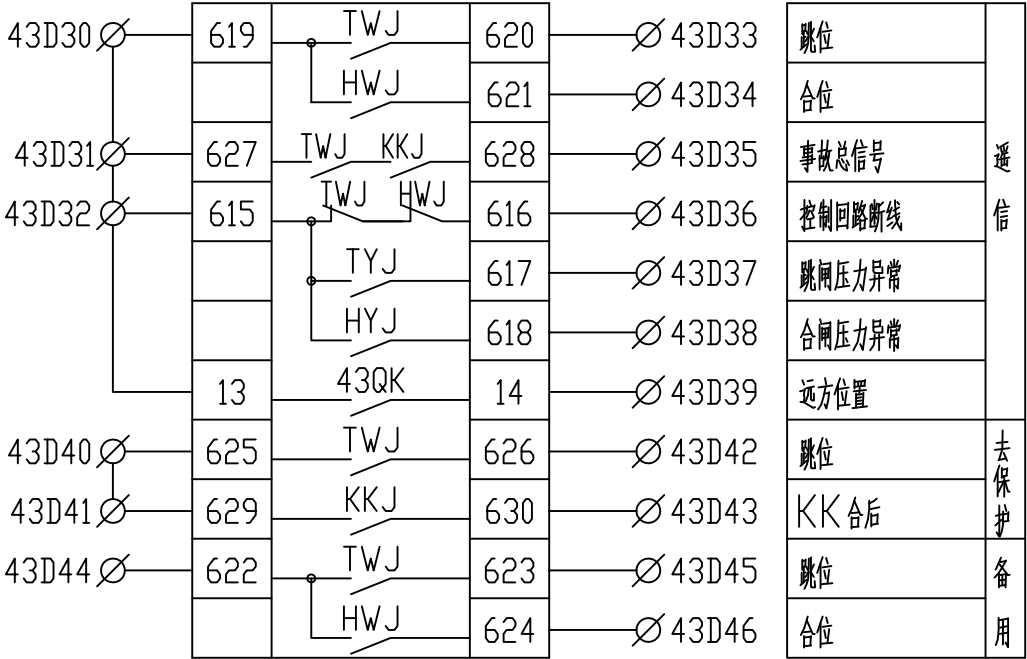




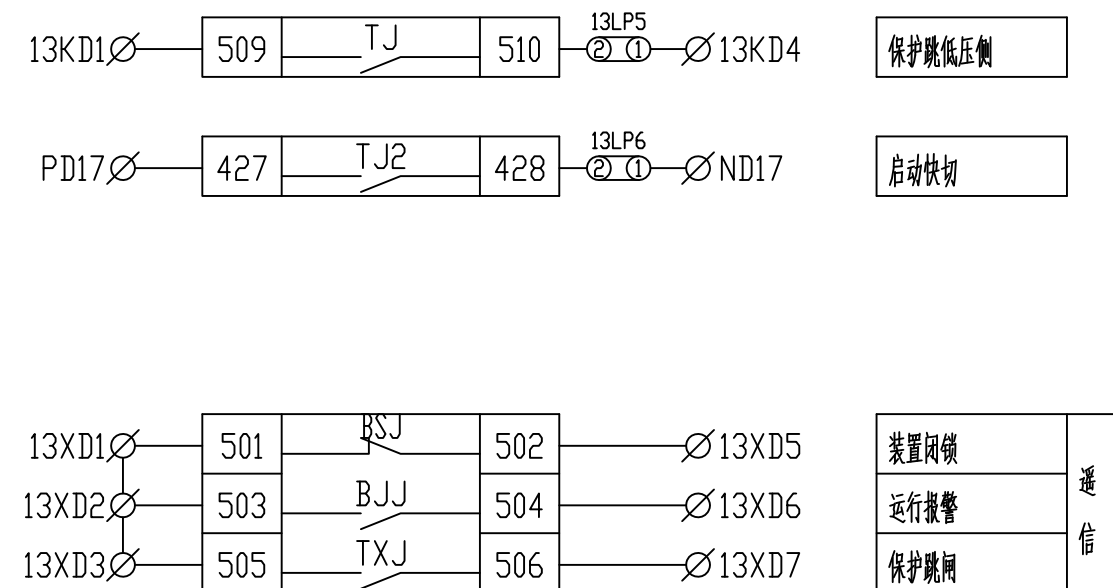
| |
|------|
| 操作电源 |
| 跳位监视 |
| 合闸保持 |
| 重合闸 |
| 防跳 |
| 手合 |
| 手跳 |
| 保护跳闸 |
| 跳闸保持 |
| 合位监视 |
| 合闸压力 |
| 跳闸压力 |
| 压力异常 |

43QK 接点位置表(LW21-16D/49.4040.4)

| 运行方式 | | 接点 | 1-2 | 3-4 | 5-6 7-8 | 9-10 | 11-12 | 13-14 15-16 |
|------|---|----|-----|-----|------------|------|-------|----------------|
| 跳闸 | ← | | — | — | — | — | × | — |
| 就地 | ↙ | | — | × | — | × | — | — |
| 远控 | ↑ | | — | — | × | — | — | × |
| 就地 | ↘ | | — | × | — | × | — | — |
| 合闸 | → | | × | — | — | — | — | — |



说明: S1 短接, 取消手合压力闭锁; S2 短接, 取消防跳; S3 短接, 取消跳闸压力闭锁



其他情况不需外引YK，可将“309定义为YK”整成0。

