

ABB RK 927 001-AB

ABB RK 927 001-AB Timer Over-Voltage Protection Relay Assembly Housing User Manual

Model: RK 927 001-AB

INTRODUCTION

This manual provides essential instructions for the safe and efficient installation, operation, and maintenance of the ABB RK 927 001-AB Timer Over-Voltage Protection Relay Assembly Housing. Please read this manual thoroughly before attempting any installation or operation to ensure proper functionality and to prevent potential hazards.

The ABB RK 927 001-AB is designed to house and protect a timer over-voltage protection relay, ensuring its reliable performance in industrial applications. This product is intended for use by qualified personnel only.

SAFETY INFORMATION

Warning: Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by ABB for any consequences arising out of the use of this material. This document is not intended to be a complete instruction manual for all persons untrained in electrical safety.

- Always disconnect power before installing or servicing the device.
- Ensure proper grounding to prevent electrical shock.
- Follow all local and national electrical codes.
- Do not operate the device if it appears damaged.

PRODUCT OVERVIEW

The ABB RK 927 001-AB is an assembly housing specifically designed for timer over-voltage protection relays. It provides a protective enclosure for the sensitive internal components of the relay, ensuring durability and operational integrity in various environments.



Figure 1: The ABB RK 927 001-AB Timer Over-Voltage Protection Relay Assembly Housing in its original packaging. The cardboard box features the ABB logo prominently.



Figure 2: Another view of the ABB RK 927 001-AB packaging, showing the product box from a slightly different perspective, confirming the branding.



Figure 3: A close-up view of the product label on the ABB RK 927 001-AB packaging. The label clearly displays "RK 927 001-AB" and "RHGX4 CASE AREA" along with a stock code, confirming the model number and type.

SETUP AND INSTALLATION

1. **Unpacking:** Carefully remove the assembly housing from its packaging. Inspect for any signs of damage during transit. If damage is found, do not proceed with installation and contact your supplier.
2. **Mounting:** The housing is designed for secure mounting. Identify a suitable location that is free from excessive vibration, moisture, and extreme temperatures. Use appropriate fasteners (not included) to secure the housing to a stable surface. Refer to the specific relay's manual for mounting orientation if applicable.
3. **Relay Insertion:** Open the housing cover. Carefully insert the compatible timer over-voltage protection relay into the designated slots or mounting points within the housing. Ensure the relay is seated correctly and securely.
4. **Wiring:** Connect the relay's terminals to the appropriate power supply and control circuits. Refer to the wiring diagram provided with the specific relay and adhere to all electrical safety standards. Ensure all connections are tight and secure.
5. **Closure:** Once the relay is installed and wired, securely close the housing cover. Ensure all seals are properly seated to maintain the housing's protective rating.

Note: This housing is designed to protect the relay. The specific functionality and wiring of the over-voltage protection relay itself are detailed in its separate instruction manual.

OPERATING INSTRUCTIONS

The ABB RK 927 001-AB is an assembly housing and does not have direct operational controls. Its primary function is to provide a protective environment for the timer over-voltage protection relay. Operation of the relay itself is governed by its internal logic and external control signals.

- Ensure the housing remains closed during operation to protect the internal relay from environmental factors.
- Monitor the status indicators on the installed relay (if present and visible through the housing) to confirm proper

operation.

- Refer to the specific relay's instruction manual for detailed operational parameters, settings, and monitoring procedures.

MAINTENANCE

Regular maintenance ensures the longevity and reliability of the ABB RK 927 001-AB housing and the relay it protects.

- **Cleaning:** Periodically clean the exterior of the housing with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- **Inspection:** Regularly inspect the housing for any signs of physical damage, cracks, or loose fasteners. Check that all seals are intact and providing adequate protection.
- **Internal Check (Qualified Personnel Only):** If internal inspection is required, disconnect all power to the device before opening the housing. Check for dust accumulation, loose wiring, or corrosion. Clean as necessary using appropriate tools and methods.
- **Environmental Conditions:** Ensure the operating environment remains within the specified limits for temperature and humidity to prevent premature wear or failure.

TROUBLESHOOTING

Since the RK 927 001-AB is a housing, most troubleshooting will pertain to the relay housed within it. However, issues related to the housing itself can impact the relay's performance.

Problem	Possible Cause	Solution
Relay not functioning (no power)	Loose wiring connections within the housing.	Disconnect power, open housing, check and secure all wiring connections.
Moisture or dust inside housing	Damaged or improperly seated seals/gaskets.	Disconnect power, open housing, inspect and replace damaged seals. Ensure cover is properly closed.
Physical damage to housing	Impact or improper handling.	Assess damage. If structural integrity is compromised, replace the housing to ensure continued protection of the relay.

For issues related to the relay's specific functions (e.g., timing, over-voltage detection), consult the relay's dedicated instruction manual.

SPECIFICATIONS

Feature	Detail
Model	RK 927 001-AB
Type	Timer Over-Voltage Protection Relay Assembly Housing
Brand	ABB
Product Dimensions	11.81 x 11.81 x 11.81 inches
Weight	4.41 Pounds

Feature	Detail
ASIN	B07X8QJ4Z2

Warranty Information

ABB products are manufactured to high-quality standards. For specific warranty terms and conditions applicable to the RK 927 001-AB assembly housing, please refer to the official ABB warranty statement available on the [ABB website](#) or contact ABB customer support. Proof of purchase may be required for warranty claims.




Customer Support




For technical assistance, product inquiries, or support, please contact ABB customer service. Visit the official [ABB Store on Amazon](#) or the main ABB website for contact details and additional resources. When contacting support, please have your product model (RK 927 001-AB) and ASIN (B07X8QJ4Z2) readily available.



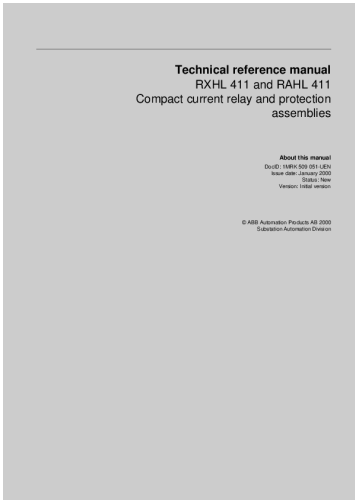
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Related Documents - RK 927 001-AB

	<p>ABB REX640 Application Manual: Protection and Control Applications</p> <p>The ABB REX640 Application Manual details various protection and control applications for the REX640 relay, offering guidance on configuration, settings, and use cases for power system engineers.</p>
	<p>ABB RET650 Transformer Protection Relay - Product Guide</p> <p>Explore the ABB RET650, a versatile transformer protection relay offering advanced differential, impedance, current, voltage, and frequency protection for power systems. This product guide details its features, applications, and technical specifications for reliable substation automation.</p>
	<p>ABB CM-EFS.2 Voltage Monitoring Relay for Single-Phase AC/DC Voltages</p> <p>ABB CM-EFS.2 is a compact voltage monitoring relay designed for single-phase AC/DC systems. It provides over- and undervoltage protection for voltages ranging from 3V to 600V, featuring adjustable thresholds, configurable operating modes (ON/OFF delay, open/closed circuit, latching), and multiple measuring ranges. The relay offers 1x2 or 2x1 changeover contacts for flexible output signaling.</p>

<div><div>ABB</div><div><div>ABB Automation Products and Services</div><div>REX640</div><div>Operation Manual</div></div><div></div></div>	<p>ABB REX640 Operation Manual: Protection and Control Relay Guide</p> <p>Comprehensive operation manual for the ABB REX640 protection and control relay. Covers installation, commissioning, operation, troubleshooting, and technical specifications for advanced power distribution applications.</p>
<div><div>ABB</div><div><div>ABB Automation Products and Services</div><div>REX640</div><div>Product Guide</div></div><div></div></div>	<p>ABB REX640 Protection and Control Relay Product Guide</p> <p>Explore the ABB REX640, a powerful and flexible all-in-one protection and control relay designed for advanced power distribution and generation applications. This product guide details its modular hardware and software, extensive application packages, and advanced features for reliable power system management.</p>
<div><div>ABB</div><div><div>ABB Automation Products and Services</div><div>REX610</div><div>Operation Manual</div></div><div></div></div>	<p>REX610 Operation Manual - ABB</p> <p>Comprehensive operation manual for the ABB REX610 protection and control relay. Covers overview, HMI usage, protection relay operation, troubleshooting, and commissioning.</p>

Documents - ABB – RK 927 001-AB



[pdf] User Manual

Untitled Document Technical reference manual RXHL 411 and RAHL Compact current relay protection assemblies 1MRK509051 UEN en reference library e abb public

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Technical reference manual RXHL 411 and RAHL 411 Compact current relay and protection assemblies Abo ... U 36C 4U 60C 6U x 1/1 19 rack 6U x 1/2 19 rack 6U x 1/4 19 rack 1MRK 000 137-GA 1MRK 000 137-KA **RK 927 001-AB** RK 927 002-AB RK 927 003-AB RK 927 004-AB 1MRK 000 315-A 1MRK 000 315-B 1MRK 000 315-C...

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Technical reference manual
RXHL 422 and RAHL 422
Compact current relay and protection
assemblies



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[pdf] User Manual

Untitled Document Technical reference manual RXHL 422 and RAHL Compact current relay protection
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Reverse power relay and protection assemblies
RXPPK 2H and RAPPK



Features

- Microprocessor based time-directional current relay protection with continuous settings for operate current and time delay.
- RAPPK 2H is used to detect reverse power or low forward power to prevent damage of the prime mover.
- Setting range $I_n = 0.1 \dots 15$ A of rated current.
- Two outputs with relay setting points.
- Rated current:
 - $I_n = 0.1, 0.5, 1, 2, 5, 10, 15$ A or
 - $I_n = 0.5, 1, 2, 5, 10, 15, 20$ A

Two different pickup time delay ranges:

- Two T_{12} or T_{13} or T_{14} or T_{15} or T_{16} or T_{17} or T_{18} or T_{19} or T_{20} or T_{21} or T_{22} or T_{23} or T_{24} or T_{25} or T_{26} or T_{27} or T_{28} or T_{29} or T_{30} or T_{31} or T_{32} or T_{33} or T_{34} or T_{35} or T_{36} or T_{37} or T_{38} or T_{39} or T_{40} or T_{41} or T_{42} or T_{43} or T_{44} or T_{45} or T_{46} or T_{47} or T_{48} or T_{49} or T_{50} or T_{51} or T_{52} or T_{53} or T_{54} or T_{55} or T_{56} or T_{57} or T_{58} or T_{59} or T_{60} or T_{61} or T_{62} or T_{63} or T_{64} or T_{65} or T_{66} or T_{67} or T_{68} or T_{69} or T_{70} or T_{71} or T_{72} or T_{73} or T_{74} or T_{75} or T_{76} or T_{77} or T_{78} or T_{79} or T_{80} or T_{81} or T_{82} or T_{83} or T_{84} or T_{85} or T_{86} or T_{87} or T_{88} or T_{89} or T_{90} or T_{91} or T_{92} or T_{93} or T_{94} or T_{95} or T_{96} or T_{97} or T_{98} or T_{99} or T_{100} or T_{101} or T_{102} or T_{103} or T_{104} or T_{105} or T_{106} or T_{107} or T_{108} or T_{109} or 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- **NOOK & naley**
 - Negative sequence overcurrent relays are used to detect unbalanced load on a generator which may cause excessive rotor heating. The relay also may detect unbalanced load on current transformers in motors.
 - The relay can also be used in the other applications such as
 - Unsymmetrical load which increase the negative sequence current.
 - Phase Interchange e.g. a broken conductor.
 - Failure on one or two poles of a breaker or disconnect switch at opening and closing.
 - Earth fault detection in solidly earthed system.
 - The relay can be used in Alarm, Trip and Blocking functions.
 - Three current ranges: $I = 1A$, $I = 2A$ and $I = 5A$
 - Set range 15bar 140% of I_n (machine current with inrush current)
 - $T = K \times (I/I_n)^2$
 - $K = 0-100$ seconds
 - $I_n = 0-100$ mV
 - Set range 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 77

- **Idle time** = 0-100 seconds.
- Thermal memory for block and trip function with the selectable cooling times up to 200 minutes
- **Start time** 1 Trip = 0-5 seconds
- Five independent output relays selectable for the Group 1, 2, 3, 4, 5
- **1-Start, 1-Alarm, 1-Trip, 1-Blocking** as well as Service 2 active.
- Easy selectable setting of parameters through the HMI.
- Trip information available via the HMI.
- Two groups of setting parameters are selectable and readable through the HMI. The active setting group 1 or 2 can be selected via the HMI.
- Selectable binary inputs to block or enable 1-Start, 1-Alarm 1-Trip, change active group and reset of LED and timer.
- Testing of the output relays and operation of binary inputs can be performed through the HMI.
- Service values are available through the HMI.
- Test switch, DOCS, emergency and heavy duty trip relays are available.

Power and productivity
for a better world™ **ABB**

Impedance relay and protection assemblies	RXZK 21H, 22H, 23H and RAZK
-------------------------------------------	-----------------------------



Features	Advantages
<ul style="list-style-type: none"> • High precision based impedance ratio with 8-bit and 4 settings for operate voltage and built in delay time function 	<ul style="list-style-type: none"> • Delivers true delay setting 0.15 s on average
<ul style="list-style-type: none"> • Characteristic angle settable 0° to 120° 	<ul style="list-style-type: none"> • Directional function with settable characteristic angle 0° to 120° and memory
<ul style="list-style-type: none"> • Three variants with wide setting ranges: <ul style="list-style-type: none"> - RZX2100: one zone + time function - RZX2200: two impedance measuring zones - RZX2300: one zone + out of step 	<ul style="list-style-type: none"> • Assemblies • Independent measuring elements with indications built in • Test robust and heavy duty start and trip delay functions on any motor

Application RKKX technology of single phase three phase three functional integrated circuit is widely used in power systems as primary or backup protection, either in combination with microprocessor or relay logic. The qualified function of such characteristic is independently adjustable in the sensitive and insensitive direction. Forward, reverse and non-directional protection is available. Applications of RKKX-21 and 22H include single zone and two-zone directional protection of transmission lines, busbars, feeders and cables. When it is necessary to obtain the same reach for two-phase and three-phase

to measure delta current i.e. $I_{\Delta 1} - I_{\Delta 2}$ and phase to phase voltage i.e. $U_{\Delta 1} - U_{\Delta 2}$ for each measuring elements respectively. The delta current can be derived using an auxiliary CTs or sensors by connecting the main CTs in delta (e.g. together with the transformer differential relays). The RXZK 23H is intended for detecting out of step conditions for line and synchronous generators and motors. The RXZK 23H includes a current reversal logic in order to set up a trip condition. This ensures that the relay will not trip on stable swing conditions, i.e. swings not resulting in a current reversal.

Time- and instantaneous overcurrent and earth fault line protection based on single phase elements

RACIK

RM 209-232-629
 Page 1
 Board Certified - 99
 2 since February, 99



- Protection for short-circuits and earth-faults (overcurrent, high impedance, earth-fault, low impedance overcurrent or earth-fault protection)
- Two or three- phase time-current protection with start, delayed and instantaneous functions
- Low set stage with inverse time / definite time characteristics
- Instantaneous or definite time delayed high set stage
- Sensitivity-directional earth-fault protection for unsymmetrical or high impedance earthed systems
- Independent measuring elements with lock-out and release
- Settable enable state of the residual current protection
- Manual or remote automatic reclosure of the electric arc after measuring of the residual or capacitive component of the earth-fault current
- Built-in selective earth-fault protection for bus-bars
- Selective earth-fault protection for small residual currents in solidly earthed systems
- Many processor based relay with communication settings for current-operation systems and time delay
- The protectors are available with or without test switch and tripping relay

- Settable enable value of the residual voltage
- Manual or remote automatic reconnection of the characteristic angle for measuring of the resistive or capacitive component of the earth-fault current
- Built-in residual voltage protection for back up
- Selective earth-fault protection for small residual currents in solidly earthed systems
- Micro-processor based relays with continuous settings for current operate values and time delays
- The protections are available with or without test switch and tripping relay

Negative sequence overcurrent relay and protection assemblies RXIIK 4 and RAIK
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Article No. 1MRK 000 137-GA 1MRK 000 137-KA **RK 927 001-AB** RK 927 002-AB RK
927 003-AB RK 927 004-AB 1MRK 000 315-A 1MRK 000 315-B 1MRK 000 315-C...
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Time- and instantaneous overcurrent and earth fault line protection based on single phase elements ... 6U x 1/2 19 rack 6U x 1/4 19 rack Code H5 H6 H7 H8 Article No. 1MRK 000 137-GA 1MRK 000 137-KA **RK 927 001-AB** RK 927 002-AB RK 927 003-AB RK 927 004-AB 1MRK 000 315-A 1MRK 000 315-B 1MRK 000 315-C...
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ABB

Directional time-overcurrent relays and protection assemblies based on single phase elements

RXPDK 2H and RAPDK
1MRK509007 BEN en



Features

- Two- or three-phase directional overcurrent protection for cables and overhead lines
- Directional earth fault protection for isolated, high-impedance or solidly earthed networks
- Independent measuring elements with independent set points
- Test switch, test and trip indication
- Micro-processor based directional time-overcurrent relay with adjustable settings for current, voltage, angle and time delay
- RXPDK 22H relay**
 - Voltage protected with voltage memory
 - Characteristic angle adjustable: 120° to ±120°
- Two variants with wide setting ranges:
 - Low set directional range 0.175 to 3.25 A or 0.275 to 19.2 A
 - High set non-directional range 0.1 to 80 A or 0.5 to 200 A and >
- Low settings programmable for the following time characteristics:
 - Normal inverse
 - Very inverse
 - Extremely inverse
 - Long time inverse
 - DL inverse
 - Definite time delay settable 50 ms to 1 s
- RXPDK 22H relay**
 - Two variants with wide setting ranges: 0.75 to 100 ms or 10.0 to 400 ms, with variable definite time delay 50 ms to 10 s
 - Settable enable value: 0.10 to 100% of rated point voltage
 - Manual or remote automatic reconnection of the characteristic angle is for measuring of the direction is dependent on position of the earth fault current
 - Settings on- or independent function
 - Separate built-in over- or undervoltage protection function. Can be separately enabled as a residual point overvoltage protection

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1MRK509007 BEN en Directional time overcurrent relays and protection assemblies based on single phase elements RXPDK2H library e abb public c1256d32004634bac1256e0f006bed90

Directional time-overcurrent relays and protection assemblies based on single phase elements RXPDK ... U 36C 4U 60C 6U x 1/1 19 rack 6U x 1/2 19 rack 6U x 1/4 19 rack 1MRK 000 137-GA 1MRK 000 137-KA **RK 927 001-AB** RK 927 002-AB RK 927 003-AB RK 927 004-AB 1MRK 000 315-A 1MRK 000 315-B 1MRK 000 315-C...

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