

TYPE V4E SINGLE PHASE VACUUM RECLOSER

EQUIPMENT SPECIFICATIONS: Type V4E Single Phase Vacuum Recloser

STANDARDS

The recloser covered by this specification shall be manufactured and tested in accordance with applicable ANSI, IEEE and NEMA Standards.

QUALITY

The manufacturing facility shall be independently certified to meet ISO 9001 Standards.

RATINGS

Ratings as a minimum shall be as follows:

Maximum Design Voltage, kV	27.0
Nominal Operating Voltage, kV	24.9
Basic Insulation Level (BIL), kV	150
Low frequency withstand voltage	
Dry, One Minute, kV	60
Wet, Ten Seconds, kV	50

Radio influence voltage measured at 1.0 MHz, 23 kV, shall not exceed 100 microvolts.

Load and Interrupting Ratings RMS Symmetrical Amperes

<u>Trip Coil Ratings</u> <u>Continuous Amps</u>	<u>Minimum Trip</u> <u>Ratings Amps</u>	<u>Interrupting Ratings (kV)</u> <u>RMS Symmetrical Amps</u>
15	30	900
25	50	1500
35	70	2100
50	100	3000
70	140	4200
100	200	6000
140	280	6000
170	340	6000
200	400	6000
280	560	6000

DUTY CYCLE

<u>PERCENT OF INTERRUPTING RATING</u>	<u>NUMBER OF UNIT OPERATIONS</u>	<u>MAXIMUM CIRCUIT X/R VALUE</u>
15-20	96	3
45-55	120	7
90-100	<u>32</u>	15
	total: 248	

MECHANICAL LIFE

Minimum of 2500 operations

OPERATING REQUIREMENTS

Tripping shall be accomplished by series coils, available from 15 to 280 amp rating. These coils shall be interchangeable in the field.

The recloser shall be available with 1,2,3 or 4 operations to lockout. The selection of the number of operations to lockout shall be adjustable in the field.

Three different delay time - current curves shall be available: B, C and D.

OPERATING FEATURES

The recloser shall be operated by a solenoid-spring operating mechanism.

The recloser shall be mechanically and electrically trip free.

The recloser shall be completely self-contained. No auxiliary power source shall be required.

Non-reclosing operation shall be provided by a hotstick operable handle located under a sleet hood. When operated, the recloser will be programmed for one operation to lockout on the first timing curve selected.

Recloser operations shall be recorded by a 4-digit mechanical counter located under a sleet hood.

Phase minimum trip values shall have a tolerance of plus or minus 10%. The tolerance for the fast time-current characteristic shall be minus.

The tolerance for delayed time-current characteristics shall be plus or minus 10%.

The nominal reclosing time shall be 2 seconds.

After operation to lockout, the recloser shall be reset to the first operation by the manual control lever.

TANK AND OIL

Reclosers shall be of single tank construction with ground connector to accommodate 2 No. 10 SOL through No. 2 STR conductors.

An O-ring gasket shall be used in a groove in the head casting to provide controlled compression.

Reclosers shall be shipped with oil filled to the proper level.

The recloser tank shall be constructed with captive hardware for securing the tanks to the head casting.

BUSHINGS

Bushings shall be of wet-process porcelains, not oil filled.

Bushing terminals shall be universal clamps type to accommodate No. 6 through 350 MCM stranded copper or aluminum conductors in horizontal or vertical position.

ARC INTERRUPTION

Vacuum interrupter should provide minimal contact erosion with no maintenance required.

Current interruption shall occur in vacuum interrupters, providing long contact life.

Each vacuum interrupter shall be serialized.

SOLENOID-SPRING OPERATING MECHANISM

A solenoid-spring operating mechanism shall be located inside the recloser.

The solenoid shall provide energy for closing and tripping the main contacts.

MANUAL CONTROL LEVER

Recloser lockout shall be indicated by an external manual control lever on the recloser located under a sleet hood.

Manual lockout of the recloser shall be obtained by operation of the manual control lever.

The recloser shall be reset and closed by operation of the manual control lever.

OPTIONAL ACCESSORIES

The following shall be available as optional accessories:

1. Lock-out indicating switch
2. Shunt lock-out mechanism
3. 17" creepage bushings
4. Crossarm mounting hanger
5. Two-bolt flat pad connectors
6. Slip-on bushing current transformers

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