 **Solid insulated vacuum recloser
for power distribution system
thru 15kV, 27kV, 38kV**

Microprocessor Based Recloser Control EVRC2A

Features

- Reduced distribution automation costs
- RTU and control mounted in one control cubicle with space for modem
- DNP 3.0, MODBUS, IEC60870-5-101/104 communication protocols and SCADA capability
- 12Vdc ~ 24Vdc auxiliary power available for modem
- Voltage, current and power metering
- Record of operation, fault waveform data for line and load profile data
- Un-interruptable power supply with trip and close
- Inner heat insulation for polyurethane foaming
- Microsoft Windows-based ETIMS interface software
- DynSync Software that can monitor and control a remote controller
- Monitoring of Power Quality Management (PQM) - Supply Outage, Sag, Swell, Unbalance and Harmonics
- Monitoring of recloser contact maintenance (contact wear & trip count)
- Time synchronization module (GPS/IRIG) support
- Live Load Blocking



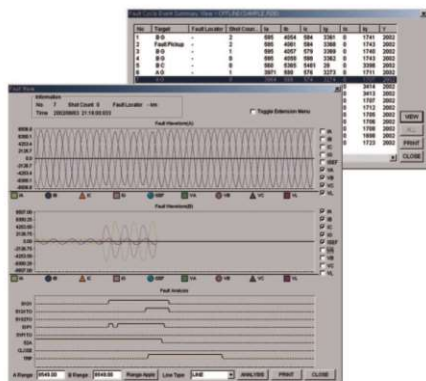
EVRC2A cubicle

Protections

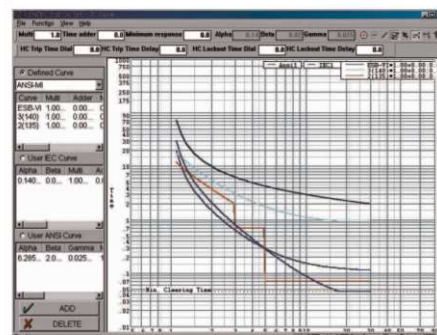
- User TCC construction capability
- Time synchronization and Position Information by time synchronization module (GPS/IRIG) support
- Three curve standards: IEEE, IEC and 37non-standard inverse time curves
- Protective settings in nonvolatile memory during power failure
- Delay time overcurrent protection(51P, 51G)
- Instantaneous overcurrent protection(50P, 50G)
- Negative sequence overcurrent protection(46)
- SEF protection
- Source and load side synchronism check
- Cold load pickup and sequence coordination
- Under/Over-frequency and load shedding(81)
- Under/Over-voltage, detection and alarm(27,59)
- Directional controls(67)
- Fault Locator
- Hotline Tag Element
- Loss of phase
- Loop control Function



Average load profile & waveform



Fault events & 15 Cycles waveform



Editor for TCC modification

Technical Control Specifications

RATINGS

Rated frequency	50 / 60 Hz
Control voltage	110-240VAC / 125VDC(Option)

ENVIRONMENTAL

Operating temperature	-40 °C to +85 °C
Humidity	100%
Degree of protection	IP55
Insulation test voltage	2kV 50/60Hz, One minute
Impulse voltage withstand	6kV Peak, 1.2/50 μ s ANSI C62.45, IEC 61000-4-5
Interference test withstand	SWC ANSI C37.90.1, IEC 61000-4-4
Radio frequency interference	IEC 255-22-3 Class III, ANSI C37.90.2

GENERAL PROTECTION (CT ratio 1000:1A)

Phase time overcurrent	10 to 1,600 Amps in steps of 1A
Phase instantaneous overcurrent	10 to 20,000 Amps in steps of 1A
Ground time overcurrent	10 to 1,600 Amps in steps of 1A
Ground instantaneous overcurrent	10 to 20,000 Amps in steps of 1A
Sensitive earth fault (SEF)	1 to 160 Amps in steps of 1A
Phase and ground time curves	IEEE C37.112, IEC255-3, User programmable curves 37 non standard inverse time curves

RECLOSE

Reclose times	Programmable from 1 to 4
Reclosing(Dead) times	1 st reclose : 0.1-600 sec in 0.01sec steps 2 nd reclose : 1.0-600 sec in 0.01sec steps 3 rd reclose : 1.0-600 sec in 0.01sec steps 4 th reclose : 1.0-600 sec in 0.01sec steps
Reset (Reclaim) times	1 to 600 sec in 0.01 sec steps

METERING (At rated voltage and current)

	CVD	RVD
Current	±1%	±1%
Voltage	±2.5%	±1%
Watt hours	±5%	±2%
Vars hours	±3%	±2%
Demands	±3%	±2.5%
Power factor	±0.05	±0.02
Frequency	±0.05Hz	±0.02Hz

RECORDING

Waveform capture

System event

Diagnostic event

Fault Event

Load profile

PQM

Fault events

Operation events

Set Change events

Alarm Current event

Counter

Recloser wear

EVRC2A

Last 32 events with 15 cycles & 16 samples

Last 2048 events

Last 512 events

Last 512 events

Last 5120events,213days/60Min. (5,10,15,20,30,60, min interval)

Last 512 events

Last 512 events

Trip, fault, system restart, PQM

Phase A,B,C

ETR300-R

Last 32 events with 20 cycles & 128 samples

Last 2048 events

Last 512 events

Last 256 events

Last 6144 events, 256days / 60Min. (5,10,15,20,30,60min interval)

Last 100 events

Last 256 events

Last 256 events

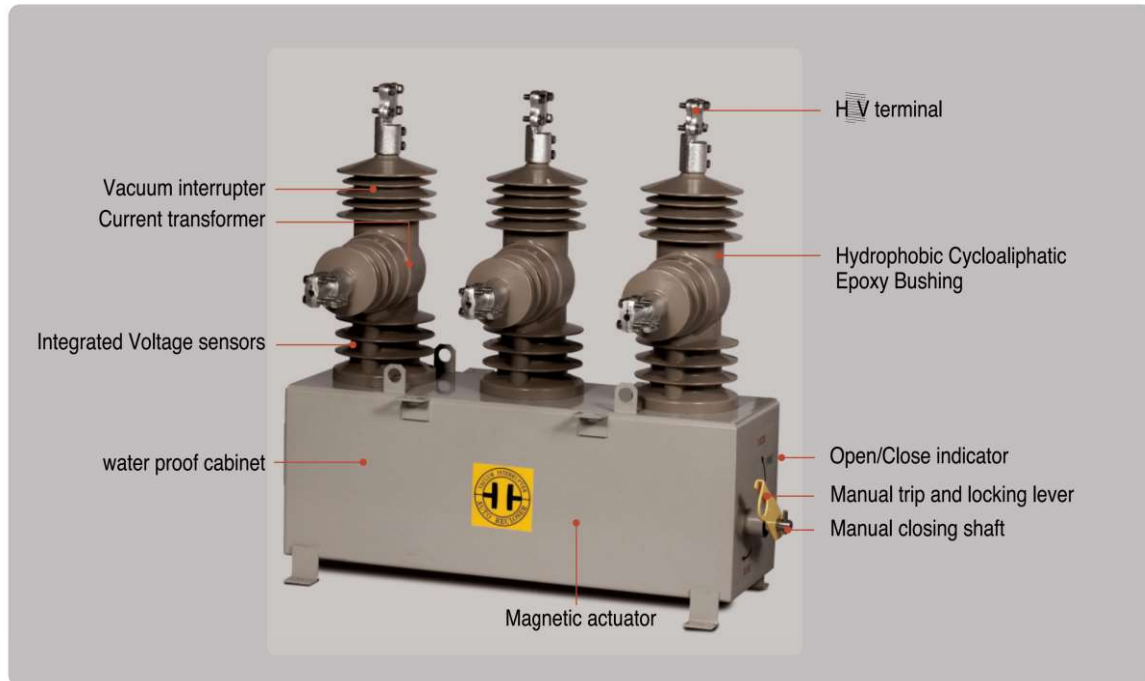
Last 100 events

Last 512 events

Trip, fault, system restart, PQM, Communication

Phase A,B,C

Construction



Electrical ratings

Description	Unit	EPR-1	EPR-2	EPR-3
Rated maximum voltage	kV rms	15.5	27	38
Continuous current	A rms	630	630	630/800
Frequency	Hz	50/60	50/60	50/60
Short circuit interrupting current	kA rms	16	12.5/16	12.5/16
Short time withstand current. 3sec	kA rms	16	12.5/16	12.5/16
Making current	kA peak	40	32.5/40	32.5/40
Cable charging Interrupting current	A rms	10	25	40
Line Charging Interrupting current	A rms	2	5	5
Basic impulse withstand voltage(1.2×50μs)	kV crest	110	150	170
Power frequency withstand voltage, dry	kV	50	60	70
Power frequency withstand voltage, wet	kV	45	50/60	60/70
- Operating control voltage		110-240VAC/125VDC(Option)		
- Operating temperature	℃	-40 to +85		
- Degree of protection		IP55		
- Maximum mechanical and electrical operations(c-o)	No	30,000		
- Maximum electrical operation on fault current	No	200		
- Applicable standard		IEC 62271-111, ANSI/IEEE C37.60		

- Other ratings is available upon request.
- ENTEC reserves the right to change the design and specification without notice.