

Emax-Air Circuit Breakers

PR121 PR122 PR123 Electronic Trip Units

Modular Trip Units

Field Interchangeable

Extremely Simple Installation

Multiple Communication Options

Onsite Remote Monitoring with Bluetooth Technology



Modularity

The latest generation electronics from ABB have made it possible to design the new, revolutionary PR121, PR122 and PR123 trip units. The re-engineered hardware architecture allows flexible and precise configuration. With the new Emax modular trip units one can simply add the appropriate module to satisfy your requirement: a great advantage, both in terms of flexibility and customization. The new Emax always offers you the most suitable solution for your installation requirement, even the most complicated.

Faults: no problem

Indication of the cause of faults is now available on all the trip unit versions. Furthermore, the exclusive data logger function automatically stores the evolution of the last fault and the information about the last twenty faults, helping you to analyze supply system interruptions. The new trip units have many types of protection and alarms available, according to the version and configuration selected; features include maximum and minimum frequency, residual current protection and control of

energy flow. It is no longer even necessary to use a different current sensor for each current rating. The new Emax offer you a world of extra solutions which are, at the same time, simple to use. The new PR122 trip unit can now be personalized, thanks to the communication, remote signaling, protection and advanced measurements modules at any time. In addition to these characteristics, the PR123 trip unit makes all the system measurements, from current flow to the analysis of the harmonic content, available on board the power circuit breaker, with high precision and clarity which makes the traditional external dedicated instruments unnecessary. Moreover, and unique to the market, it offers double protection against short time-delay short circuit (protection "S"), for more efficient discrimination with molded case circuit breakers on the supply side.

ABB

Electronic Trip Unit Features

	PR121	PR122	PR123
Protective Functions			
Protection against overload with inverse long time-delay trip	•	•	•
Selective protection against short circuit inverse or definite short time-delay trip	•	•	•
Second selective protection against short circuit inverse or definite short time-delay trip			•
Protection against instantaneous short circuit with adjustable trip current threshold	•	•	•
Protection against ground fault residual source ground return	•	•	•
Protection against directional short circuit with adjustable time-delay			•
Protection against phase unbalance		•	•
Protection against over temperature (check)		•	•
Undervoltage protection		opt.①	•
Oversvoltage protection		opt.①	•
Residual voltage protection		opt.①	•
Reverse active power protection		opt.①	•
Thermal memory for functions L and S		•	•
Under frequency protection		opt.①	•
Over frequency protection		opt.①	•
Measurements			
Currents (phases, neutral, ground fault)		•	•
Voltage (phase-phase, phase-neutral, residual)		opt.①	•
Power (active, reactive, apparent)		opt.①	•
Power factor		opt.①	•
Frequency and peak factor		opt.①	•
Energy (active, reactive, apparent, meter)		opt.①	•
Harmonics analysis (display of wave forms and harmonics module)			•
Event marking and maintenance data			
Event marking the instant it occurs	opt.②	•	•
Chronological event storage	opt.②	•	•
Electrical operations counter and contact wear		•	•
Communication with supervision system and centralized control (IEC only)			
Remote setting of the protection functions parameter, unit configuration, communication		opt.③	opt.③
Transmission of measurements, states and alarms from circuit breaker to system		opt.③	opt.③
Transmission of events and maintenance data from circuit breaker to system		opt.③	opt.③
Watchdog			
Alarm and trip for release over temperature		•	•
Check of trip status	•	•	•
Interface with the user			
Presetting by means of dip switches	•		
Presetting by means of keys and LCD viewer		•	•
Alarm signals for functions L, S, I and G		•	•
Alarm signal of one of the following protections: undervoltage, oversvoltage, residual voltage, reverse power, phase unbalance, over temperature		opt.①	•
Complete management of pre-alarms and alarms for all the self-control protection functions		•	•
Enabling password for use with consultation in "READ" mode or consultation and setting in "EDIT" mode		•	•
Load control			
Load connection and disconnection according to the current passing through the circuit breaker		•	•
Zone discrimination			
Can be activated for protection functions S, G and (PR123 only) D		•	•

① with PR120/V; ② with BT030 communications unit; ③ with PR120/D-M



ABB Inc.

1206 Hatton Road
Wichita Falls, TX 76302
For more information and
the location of your local
field office please go to
www.abb-control.com