



FP 04-AR

FEEDER PROTECTION RELAY

The FP 04-AR is a numeric, digital signal processor based, multi-functional protection relay. The FP 04-AR provides comprehensive protection for medium and high voltage incoming and outgoing feeder circuits.



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OPERATIONAL INFORMATION & SPECIFICATIONS

FP 04-AR

The FP 04-AR Auto Reclose Protection Relay is a digital, integrated, multi-function, combined over-current, standard earth fault and sensitive earth fault protection relay.

It has been a highly relied upon feeder relay for the utility, mining and industrial sectors.

There are several thousand installations in operation today and many plants rely solely on the FP 04-AR for the protection of their switchgear, cable and related assets downstream of the feeder.

Through the FP 04-AR the plants are protected from disruptive and costly potential down time.

The FP 04-AR can be used as a standard protection relay that continually monitors feeder parameters and when critical conditions are detected, the output relay will trip the breaker.

When required the Auto Reclose function for the FP 04-AR can be enabled. When Auto Reclose is enabled in the FP 04-AR pre-programming, the breaker can auto reclose up to four times depending on selected settings. On Reclose, if the fault still exists, the relay will lockout, bringing the feeder to safe levels until the fault can be rectified.

Why buy an FP 04-AR

The FP 04-AR is designed, manufactured and supported in South Africa to meet the needs of our harsh climate.

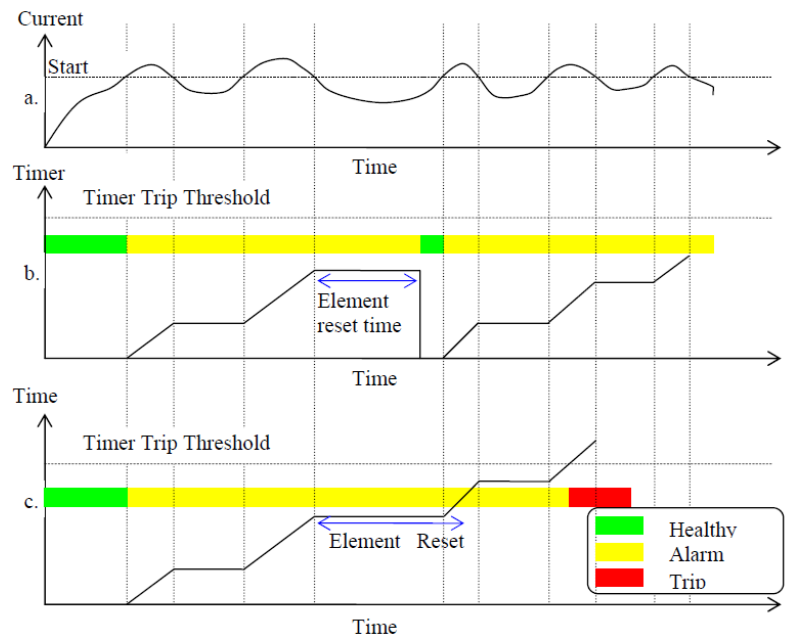
The FP 04-AR is a very cost effective and reliable solution to protect expensive equipment.

The FP 04-AR and its predecessors have been in the market for decades and has proven its value to customers consistently.

The FP 04-AR offers the user the convenience of relying on an automatic reclose (AR) of the breaker.

Key Features

- Reduces protection relay stock-holding and offers the greatest flexibility should operational requirements change.
- Accurate time and current measurements.
- Reset after a trip can be either automatic after a preset delay or requiring user acknowledgment.
- 4 running displays, any of which can be programmed to be the default display.
- High speed data communications up to 115k baud.
- 4 Dual 1A/5A current measuring elements.
- 6 relay outputs.
- 30V to 250V AC/DC auxiliary power supply.
- Time stamping of trip events without the need for an internal battery.
- LED status indication
- Remote communication via RS232 or RS485 Serial port.
- Optically isolated digital input.
- Flush mount or 19" rack mounting. Draw out facility with automatic CT shorting contacts.
- Application software, programming via the keypad or computer.
- Checksum verifying output relay assignments.
- The following FP 04-AR protection functions are standard:
 - » Over-current
 - » Earth fault
 - » Sensitive earth fault
 - » Circuit breaker fail
- Protection curves covered by the FP 04-AR are:
 - » SI standard inverse
 - » VI very inverse
 - » EI extremely inverse
 - » LTI long time inverse
 - » DTL definite time lag



Key Functionalities

- Additional multi shot breaker auto reclose.
- Breaker fail detection
- Trip history data logged view and retrievable by computer
- Symbols > or >> on FP 04-AR display indicate they have been applied for protection on the associated element (CT).
- User activated hardware diagnostic testing facility.
- Integrated simulated injection facility to verify set-up.
- Trip history records with time stamping and status registers
- 1A/5A CT selection programmable - no relay removal to configure CT wire connections.
- Keypad programmable
- A pre-set number of user acknowledged reset can occur before a password is required.
- The digital inputs:
 - » (Input 1 (basic)) and with (K4 set to be Input 3) and
 - » (K4 set to be input 2)
 - » A total of three "inputs" can be assigned to any one of the alternative functions
 - » Trip blocking
 - » An event input
 - » Breaker status, trip spring wound, block auto reclose or for remote reset
 - » Breaker I²t Accumulation, together with all events counts are logged.



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