

FAULTED CIRCUIT INDICATORS

Overcurrent Trip, Automatic Time Reset



The Enhanced Visibility of LED Indication with Optional fiber Optic and the Convenience of Automatic Time Reset.

Designed for URD application, Fisher Pierce Series 1541/42/43 Faulted Circuit Indicators (FCIs) offer superior performance, the convenience of automatic time reset and the advantages of LED fault indication. A true current sensing coil (CT) coupled with electronic intelligence provides immediate registration of faults. A red LED indicator is visible at night, while its on-off blinking helps to prevent misreading in bright sunlight. An 85 dB audible beeping alarm is also available for fault indication instead of an LED display. Field testing for proper operation of trip and reset functions can be manually triggered.

Fisher Pierce FCIs allow utility service crews to quickly and easily identify fault locations, reducing outage times and revenue losses associated with them, as well as service crew costs. By preventing premature and repeated reclosing on faulted circuits, FCIs help minimize the danger to service crews and potential damage to equipment.

All Fisher Pierce FCIs are designed, manufactured and fully tested in-house to ensure superior quality and compliance with ANSI 495-1986.

One-, Two-, Three-Phase Models

Series 1541/42/43 FCIs are available in single, two, and three phase models. Fault registration and indication are provided by means of a high-intensity light emitting diode (LED) which is directly integrated into the main sensor housing, mounted remotely, or connected through a fiber optic cable to a remote location. An optional integral high volume audible beeper is available instead of LED indication.

Tested to Meet or Exceed ANSI/IEEE

Fisher Pierce Series 1541/42/43 FCIs are tested to meet or exceed ANSI/IEEE 495-1968 Guide for Testing Faulted Circuit Indicators.

Series 1541/42/43 FCIs are designed to survive in an underground enclosure under conditions of submersibility, salt spray and extremes of hot and cold temperatures. All internal components are encapsulated in polyurethane to prevent environmental damage.

A long-life lithium battery permanently sealed in place to prevent contamination is used for automatic time reset and LED or audible alarm power source. An optional weatherproof replaceable battery pack is available.

Advanced Features and Functions

Self-powered, Series 1541/42/43 FCIs provide instantaneous operation on fault conditions even if the line has been deenergized for an extended time period. Trip ratings are factory calibrated at standard trip levels and can be calibrated at customer specified trip ratings between 50 and 1500 amps. A standard passive inrush restraint feature minimizes false tripping.

Automatic Time Reset

A time-dependent reset function automatically resets the FCI after a fault condition in the absence of voltage or current. Other reset times can be specified by the customer.

All Series 1541/42/43 FCIs have manual trip test and reset override features for in-the-field verification of operation. A hotstick mountable magnetic reset tool is available as an option for manual field test. The manual reset function allows an operator to fully reset the FCI at any time during the reset cycle.

Simple Installation

All configurations are designed for single hotstick mounting in underground and padmounted installations. The small size and versatile clamp design ensure secure mounting on a wide range of cable diameters.

Typical Applications

Fisher Pierce Series 1541/42/43 FCIs are designed to provide accurate and reliable fault indication in a wide variety of applications including padmounted and submersible transformers, URD vaults and splice boxes, padmounted and subsurface switchgear, fused and unfused taps, substation getaways, and feed midpoints.

Specifications

Fault Registration: Red, high intensity light emitting diode (LED) with choice of hard wired or fiber optic cable remote mounting or audible intermittent beeper signal.

Trip current: Factory preset to customer specifications. Range 50A and 100A to 1500A in 100A increments.

Trip Current Accuracy: ± 10% of trip rating (calibrated using 1" diameter cable for 400A trip or less; or 2.0" diameter cable for greater than 400A trip).

Trip Response Speed: Consult trip curves. Coordinated to properly applied link, expulsion, power and current limiting fuses.

Reset Time: 4 hours, 2 hours, 1 hour.

Manual trip/reset standard.

Overload Capacity: Capable of withstanding 25,000A for 10 cycles.

Continuous Load Current: Rated at 1000A (maximum).

Temperature Range: -40°C to +85°C.

Submersibility: Tested to 30 feet.

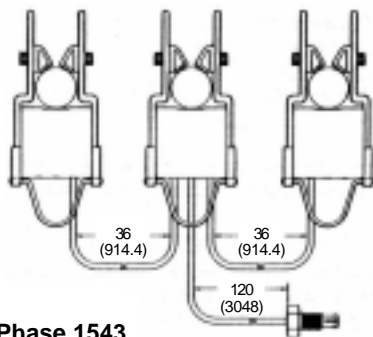
Operating Battery Life: 800 hours for LED indication 160 hours for audible indication. Both with 10 year life at 20°C.

Battery: Long life lithium cell.

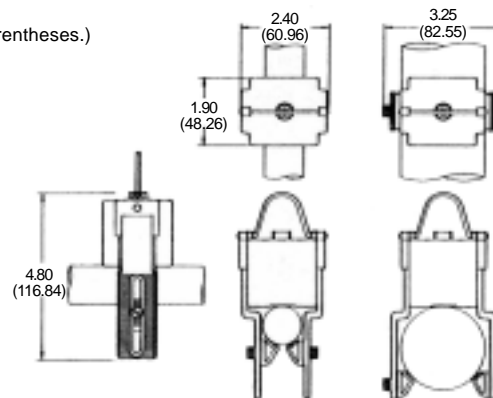
Cable Ranges: 0.63 to 1.58 in.; 1.58 to 2.36 in.; 2.36 to 3.55 in.

Remote Fiber Optic Options: Permanent or removable (standard 10 feet with a maximum of 30 feet).

Mechanical Data (All dimensions in inches with metric equivalents in parentheses.)



Three Phase 1543



Ordering Information

To order a series 1541/42/43 Fault Indicator, specify code letter or number of each of the following. Not all combinations are possible, consult factory.

1541 F H - 4 A - 10 R S - B

(1) (2) (3) (4) (5) (6) (7)(8) (9)

Number	Basic Model
1541	Single Phase
1542	Two Phase
1543	Three Phase

Code	Inrush Restraint
F	Inrush time-overcurrent (dual curve). Standard
N	Non-Inrush delay

Code	Indication/Battery Options
H	LED, non-replaceable battery. Hotstick mounted
R	LED, replaceable battery. Hotstick mounted
A	Audible alarm indication, replaceable battery. Hotstick mounted

Code	Trip Point (Amps)
0.5	50
0.6	60
1	100
2	200
3	300
4	400
4.5	450
5	500
6	600
8	800
10	1000
12	1200
15	1500

Code	Factory Code
B	

Code	Cable Clamp Size
S	Small (0.63 - 1.58) inch cable diameter
M	Medium (1.58 - 2.36) inch cable diameter
L	Large (2.36 - 3.55) inch cable diameter

Code	Display Options
R	Remote LED
T	Integral LED or audible alarm (always selected with Code A or H in section 3)
E	Remote LED, fiber optic cable
F	Remote LED, removeable fiber optic cable

Code	Length of Remote LED Cable
N	Not applicable when code T is selected on section 7
10	10 foot lead length

Code	Reset Time Delay After Fault Occurrence
A	4 Hour automatic reset time delay
B	2 Hour automatic reset time delay
C	1 Hour automatic reset time delay

Specifications are subject to change.



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