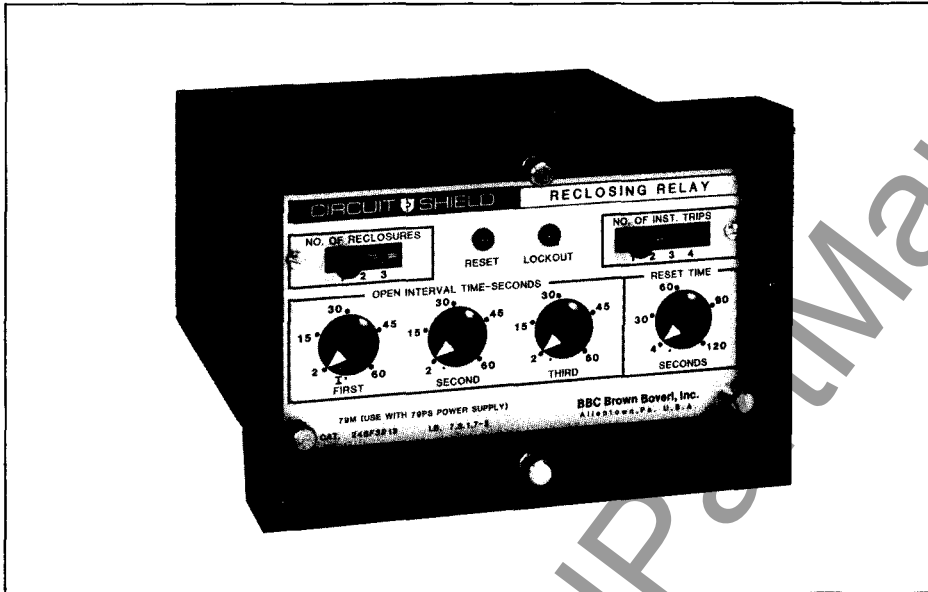


November, 1990
Supersedes Bulletin 7.3.1-1E,
pages 1 and 2, dated January, 1989
Mailed to: E, D, C/41-600B

Device Number: 79

CIRCUIT SHIELD[®] Type 79M Multiple Shot Reclosing Relay



Application

The Circuit-Shield Reclosing Relay is used to automatically reclose a circuit breaker one or more times after it has been tripped by its protective relay. These relays are used on power lines which are subject to temporary faults caused by lightning or tree branches which burn free, leaving the line clear.

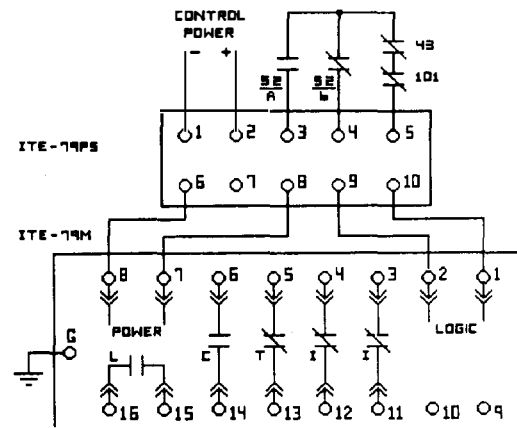
The reclosing relay provides for the selection of a desired number of reclosures. An adjustable time delay is also provided before each reclosure signal to allow line conditions to stabilize.

A successful reclose is determined by a preset time delay initiated each time the breaker recloses. If the breaker remains closed for this time period, the reclosing relay resets to reinstitute the entire program of reclosures.

If after the preset number of reclosures the breaker trips before the reset time elapses, the reclosing signal ceases and the relay indicates lockout.

Features

- Front-accessible settings
- Magnetic memory logic
- Shockproof design
- Lockout indication
- No cams – no maintenance
- Flexible programming – both time and instantaneous
- Reset indication
- 2 year warranty



C — CLOSE CONTACT

Closes on trip count after reclose delay. Remains closed until (52/b) opens.

I — INST. CUTOUT CONTACT

Opens on a selected trip count.
Closes on reset or lockout.

T — TAP CHANGER CUTOUT CONTACT

Opens on first trip.
Closes on reset or lockout.

L — LOCKOUT CONTACT FOR REMOTE INDICATION

Closes on lockout.
Opens when (52/b) opens and/or on reset.

Specifications

Number of Reclosures: Tap selected 1, 2, or 3

Number of Inst. Trips: Tap selected 1, 2, 3 or 4

Reclose Time: (continuously adjustable)
1st open interval: Inst. to 15 sec.; Inst. to 60 sec.
2nd open interval: 2 to 30 sec.; 2 to 60 sec.
3rd open interval: 4 to 60 sec.; 15 to 120 sec.

Reset Time: (continuously adjustable)
2 to 30 sec.; 4 to 60 sec.;
4 to 120 sec.

Output Rating:
Each Contact 30 amps, closing
5 amps, continuous
1 amp, opening resistive
0.3 amp, opening inductive

Available Power Supply Module:

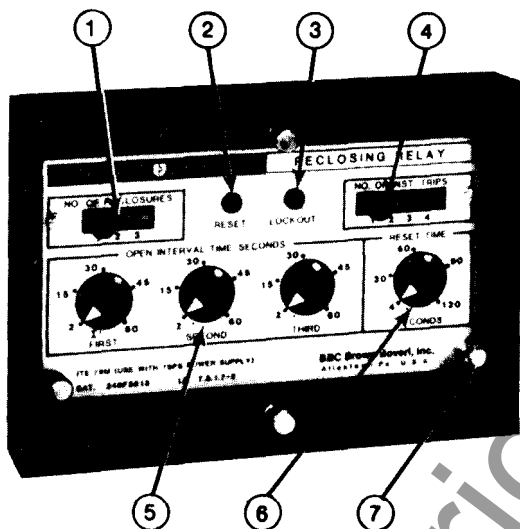
32Vdc, 48Vdc, 125Vdc, 120Vac,
240Vac, 50/60 Hz.

Operating Temperature: Minus 20°C to plus 70°C

Transient Immunity: More than 2500V, 1MHz bursts
at 400 Hz repetition rate
continuous. (ANSI C37.90 SWC) fast
transient test; EMI test

Magnetic Memory: Conserves sequence on loss of control
power.

Weight: Unboxed - 4.0 lbs (1.8 kg)
Boxed - 4.7 lbs (2.1 kg)
Volume - 0.25 cubic feet



Flexible Programming, Front Accessible

- (1) Select desired number of reclosures to a maximum of 3 (4 shots to lockout).
- (2) Reset indicator lights when the relay is in the reset mode and control power is available.
- (3) Lockout Indicator - Solid-state light emitting diode indicates completion of program and lockout.
- (4) Select number of instantaneous trips to a maximum of four (4).
- (5) Select desired open-interval times:
First — inst. to 60 seconds.
Second — 2 to 60 seconds,
Third — 2 to 60 seconds.
(other times also available)
- (6) Select reset time, continuously adjustable from 4 to 120 seconds. Reset timer is independently initiated after each closure (other times also available).
- (7) Two pull knobs are provided for ease of drawing out the relay.

How to Specify

Relay shall be Asea Brown Boveri Type 79M or equal, and shall provide front-accessible adjustments of: (1) the number of reclosures, (2) the number of instantaneous trips, (3) the open-time interval for each reclosure, and (4) the reset time, which shall be independently initiated after each closure. The reclosing relay shall provide lockout after a selection of one to three reclosures.

Further Information

List Prices: PL 41-020
Technical Data: TD 41-025
Instruction Book: IB 7.3.1.7-2①
Other Protective Relays:
Application Selector Guide, TD 41-016

① Available upon request, only from Allentown Plant.

How to Order

For each reclosing breaker order:
1 — Type ITE-79M Reclosing Relay, and
1 — Power Supply Module (Surface Mounted)

For a complete listing of available reclosing relays, including internal connection diagrams and dimensions, see TD 41-025.

To place an order, or for further information, contact the nearest District Office.



September 1995
Supersedes Descriptive Bulletin 41-612S,
page 3, dated November 1990
Mailed to: E, D, C/41-600B

CIRCUIT SHIELD®

Type 79M Multiple Shot Reclosing Relay

Type	Function	Internal Connections	Open Interval Time	Reset Time	Catalog Numbers Drawout Test Case
79M①	Multi-shot	16D248B	1 – 15 secs. 2 – 30 4 – 60	2 – 30 secs.	448G3613
			1 – 15 secs. 2 – 30 4 – 60	4 – 60 secs.	448G3813
			1 – 60 secs. 2 – 60 2 – 60	4 – 120 secs.	448F3913
			1 – 15 secs. 2 – 30 15 – 120	2 – 30 secs.	448H4613
			1 – 15 secs. 2 – 30 15 – 120	4 – 120 secs.	448H4913
			1 – 15 secs. 2 – 30 15 – 120	2 – 30 secs.	448H4633
		16D248E	1 – 15 secs. 2 – 30 15 – 120	2 – 30 secs.	448H4633
		16D248D	1 – 15 secs. 2 – 60 secs.	2 – 30 secs. 4 – 120 secs.	448S1911 448S3911

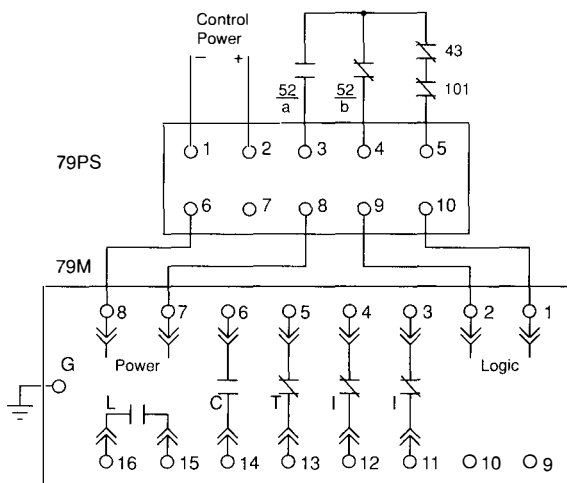
Type		Control Voltage	Catalog Number
79PS	Power-Supply Module (Surface Mounted)	32 Vdc	79PS032M
		48 Vdc	79PS048M
		110 Vdc	79PS110M
		125 Vdc	79PS125M
		120 Vdc	79PS120M
		240 Vdc	79PS240M
(Ac units suitable for 50/60 Hz)			

① Use 1 Type 79PS Power Supply Module with each relay.

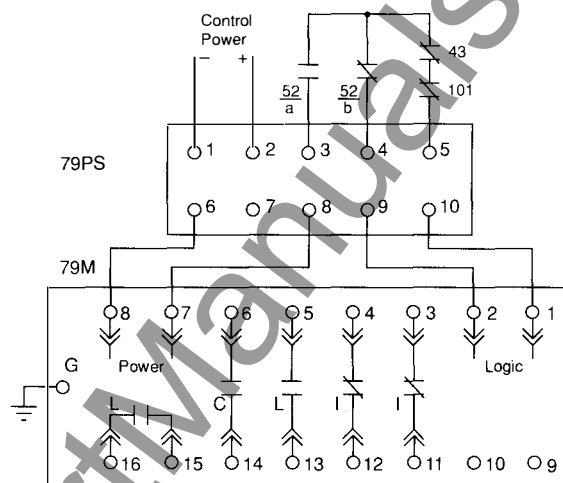
Note: The Type 79PS is a separately mounted device and is supplied at no additional charge.

Internal Connection Diagrams

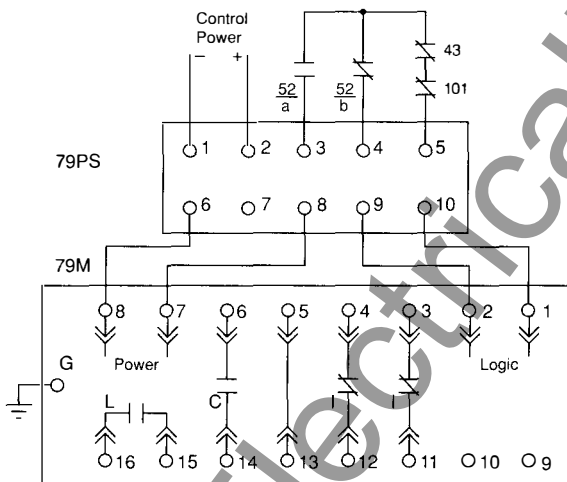
**16D248B Type 79M
Reclosing Relay
Drawout Test Case**



**16D248E Type 79M
Reclosing Relay
Drawout Test Case**



**16D248D Type 79S
Standard Case and Test Case**



Legend

- C – Close Contact
- I – Instantaneous Cutout Contact
- L – Lockout Alarm Contact
- T – Tap Changer Cutout Contact
- 43 – Reclosure Cutout Switch
- 52/a – Circuit Breaker Auxiliary Contact
- 52/b – Circuit Breaker Auxiliary Contact
- 101 – Control Switch Contact, Closed only after CLOSE.

ABB Power T&D Company Inc.
Relay Division
4300 Coral Ridge Drive
Coral Springs, FL 33065
954-752-6700



ABB Power T&D Company Inc.
Relay Division
7036 Snowdrift Road, Suite 2
Allentown, PA 18106
610-395-7333