

Westinghouse



Type DS Air Circuit Breakers

For Applications up to 600 Volts Ac

OLD

628650

General Information:

Type DS low-voltage air circuit breakers are designed for operation on ac systems only, up to 600 volts. For descriptive information, refer to DB 32-650.

In general, the information and application principles of AD 33-760 apply to the DS breakers for ac systems with exceptions and deletions as follows:

1. Delete Table A page 3 and substitute the following:

Table A: Standard Ratings of Type DS Low-Voltage Air Circuit Breakers:

A-c Voltage	Breaker Type	Trip Current Range	Interrupting Capacity Symmetrical Amperes	Maximum short-circuit at which breaker can be applied when furnished with short-time delay
240 and below	DS-206 DS-416 DS-532	50- 600 50-1600 1200-3200	42,000 65,000 65,000	22,000 42,000 50,000
241 to 480	DS-206 DS-416 DS-532	50- 600 50-1600 1200-3200	30,000 50,000 50,000	22,000 42,000 50,000
481 to 600	DS-206 DS-416 DS-532	50- 600 50-1600 1200-3200	22,000 42,000 50,000	22,000 42,000 50,000

Breaker Type	Sensor Rating in Amperes
DS-206	100 150 200 300 400 600
DS-416	100 150 200 300 400 600 800 1,200 1,600
DS-532	2,400 3,200

2. In Tables B, C, D, and E, substitute as follows:

For DB-15—Substitute DS-206
For DB-25—Substitute DS-206
For DB-50—Substitute DS-416
For DB-75—Substitute DS-532 however do not exceed interrupting ratings given in Table A above. For interrupting requirements in excess of those of the DS-532, use DB-75 and the DB line of low-voltage switchgear. For DB-100—continue the use of DB-100 and the DB line of low-voltage switchgear. (DS design is not available in this rating.)

3. In the text material of AD 33-760 substitute DS breakers for DB breakers in line with the above substitution list.

4. On pages 8 and 9

- Delete third and fourth paragraphs in left column page 8, on trip coils and extended overload settings.
- Delete in center column page 8, "2. In dc circuits, it is the maximum value of the current flowing during the fault transient."
- Delete all information, in right column page 8, beginning with the heading "Tripping and Closing Devices."
- Delete all of page 9.

Note: Refer to DB 32-650 for description of the DS breaker Amptector solid-state tripping and the stored energy closing mechanism.

5. Delete all of page 10 except the information on "Auxiliary Switches." The same auxiliary switch is used on both the DS and DB breakers.

6. Delete Table G on page 11.

7. The information beginning with "Selective Tripping" on page 11 and continuing up to "Resistance Welding" on page 25 is applicable provided DS breakers are substituted for DB breakers in line with substitution 2 above.

8. Beginning with "Resistance Welding" delete all information on pages 25 through 28. The DS breakers have not yet been evaluated for welding applications and Field Discharge breakers have not been developed.

9. The information on pages 29 through 38 is general and applicable except delete Table TA on page 32.

10. Delete Table V on page 39. Curve #628650-B included with this publication applies to the Amptector solid-state tripping unit used with the type DS circuit breakers.

11. The following attachments are available on the type DS air circuit breakers.

- Overcurrent trip switch. This is a latching relay operated by the Amptector. The standard relay has one normally open and one nor-

mally closed contact. This relay must be reset by hand operation of a switch which energizes a resetting coil.

- Overcurrent switch. This is a self-resetting relay which picks up on an overload condition at a lower pick-up value than the breaker overload trip setting of the Amptector. It will give advance notice of an overload condition. It has 60 to 100 percent of long delay pick-up adjustment and 1 to 10 min. time adjustment. This relay has one normally open contact.

- Electric lockout. It is necessary to operate a pushbutton to close the breaker. The push-button is located on the breaker faceplate and the control circuit would be in series with any required external interlocking. In the connected position the manual "push to close" is inoperative and manual closing is controlled by the electric lockout pushbutton.

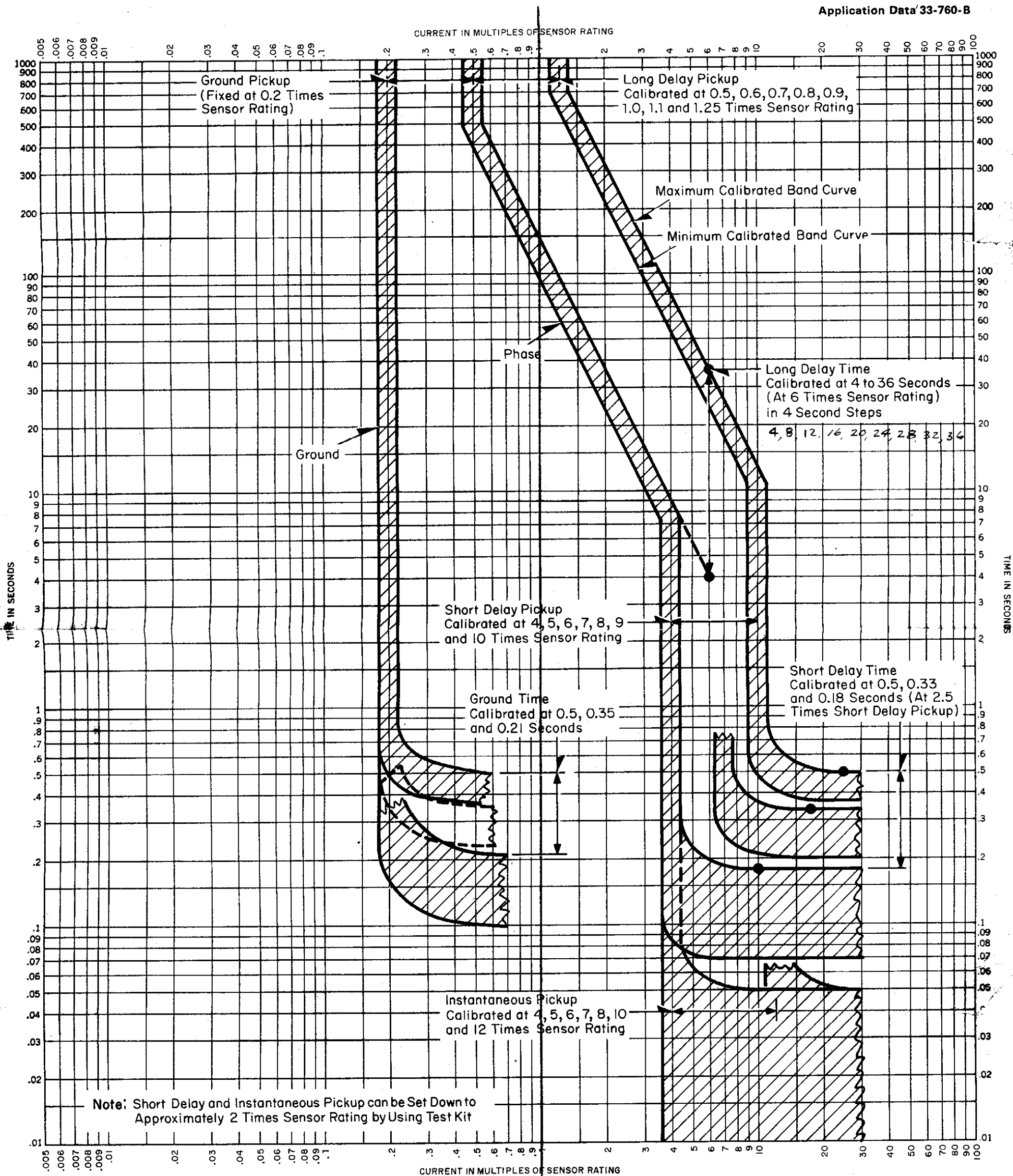
- Undervoltage trip attachment acts to trip the circuit breaker when the voltage on its solenoid operating coil is insufficient to retain a spring loaded core. The dropout point falls within a band of 30 to 60 percent of nominal coil voltage and is not adjustable. This attachment is available either as instantaneous or time delay types. The time delay falls within a band of 4 to 7 seconds and is not adjustable. Operating voltages are 115 volts ac, 230 volts ac, and 460 volts ac. The undervoltage device is automatically reset when the breaker opens and the time delay requires approximately one minute for full reset.

- Remote closing spring release. This permits remote closing of a manually operated breaker after the closing spring is charged manually.

- Shunt trip for operation at 48 volts dc, or 125 volts dc.

12. The closing spring charging motor and spring release circuits are designed for 125 volt dc operation. If ac operation is required an external small solid-state rectifier and control power transformer are necessary.

In order to achieve anti-pump it is necessary to include a control switch or push-button 'b' contact in the spring charging motor circuit.



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For Application up to 600 Volts Ac
Time Current Characteristics

AMPTECTOR 0

Westinghouse Electric Corporation
 Switchgear Division, Pittsburgh, Pa.
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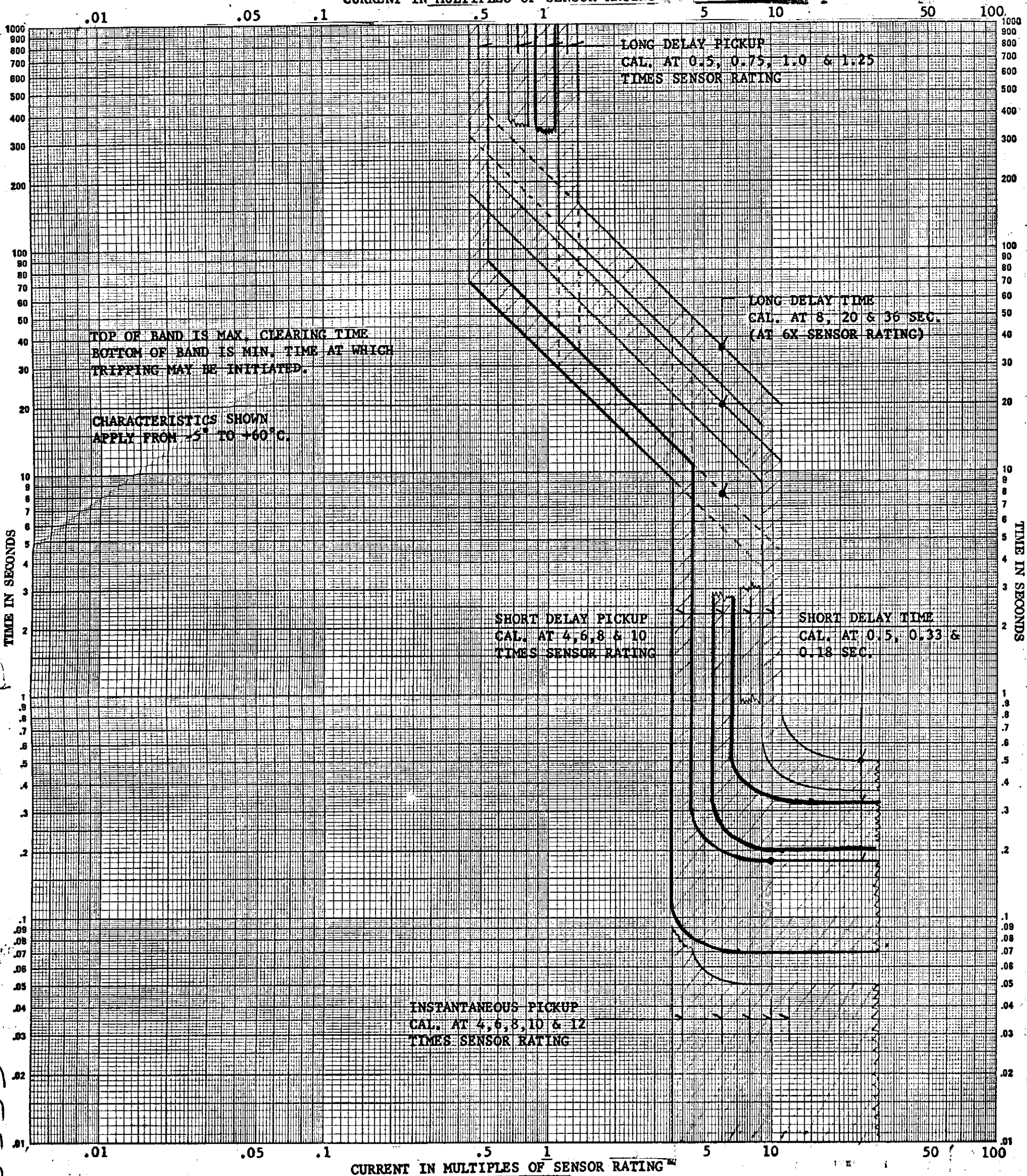
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New Information

Reference No. 628650-B

September, 1969

CURRENT IN MULTIPLES OF SENSOR RATING



AMPTECTOR II

TIME-CURRENT CHARACTERISTIC CURVES

For..... Fuse Links. In.....
 BASIS FOR DATA Standards..... Dated.....
 1. Tests made at..... Volts a-c at..... p-f., Starting at 25C with no initial load.....
 2. Curves are plotted to..... Test points so variations should be.....

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