August 1995 **[**Rev 1: 05/2002]

ADDENDUM TO IB 7.6.1.7-2B, Types 46D and 46H

The ABB Circuit-Shield solid-state protective relay identified below is hereby certified to be a direct replacement for the superseded model. This new version equals or exceeds the original model in fit, form, and function.

Product	Replacement Cat. no.	Superseded Catalog Number
Current Balance Relay Type 46D	427QXXX1	427QXXX0, 227QXXX0

The ABB Type 46D Current Balance relay is described by Bulletin DB 41-171S. The relay utilizes the Test Case design concept to provide a full drawout capability and easy field testing. Relays with catalog numbers starting with 427 are similar to relays of the 227 series, but offer totally drawout construction with integral test facilities. Current transformer shorting is accomplished by a direct-acting spring and blade assembly upon removal of the relay from its case. Units of the 227 series, which are now obsolete, are of partial drawout construction, with the input transformers remaining in the case upon withdrawal of the lower electronic circuit board.

Use of the Front Panel Test Jacks to Determine the Negative Sequence Current Level:

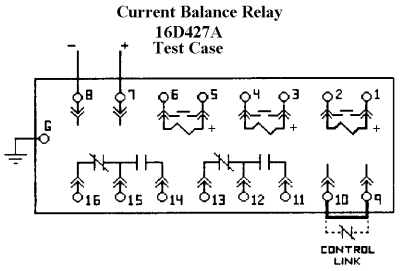
The 427QXXX1 series has test jacks on the front panel of the relay so that the negative sequence current level can be easily determined with the relay in service. This is done by making a measurement of the ac voltage signal from the negative sequence filter circuit within the relay. Use the following formulas:

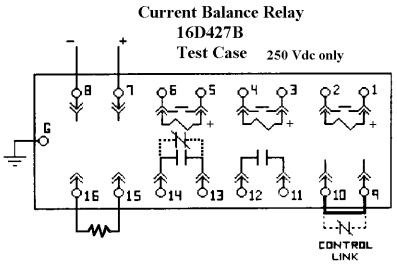
$$I2 = \frac{\text{Vsig (AC RMS)}}{K}$$

K = 8.0 for 427QX1X1 models (0.1-0.4A range)
K = 1.6 for 427QX2X1 models (0.5-2.0A range)
K = 2.67 for 427QX4X1 models (0.3-1.2A range)

Mounting and Wiring:

The package size and mounting dimensions have been kept the same to provide mechanical interchangeability. The original rear terminal wiring arrangement has also been retained (see diagrams below). Mounting, wiring and operating information is shown in Instruction Book 7.6.1.7-2.





Contact 13-14 convertible
External resistor supplied with relay