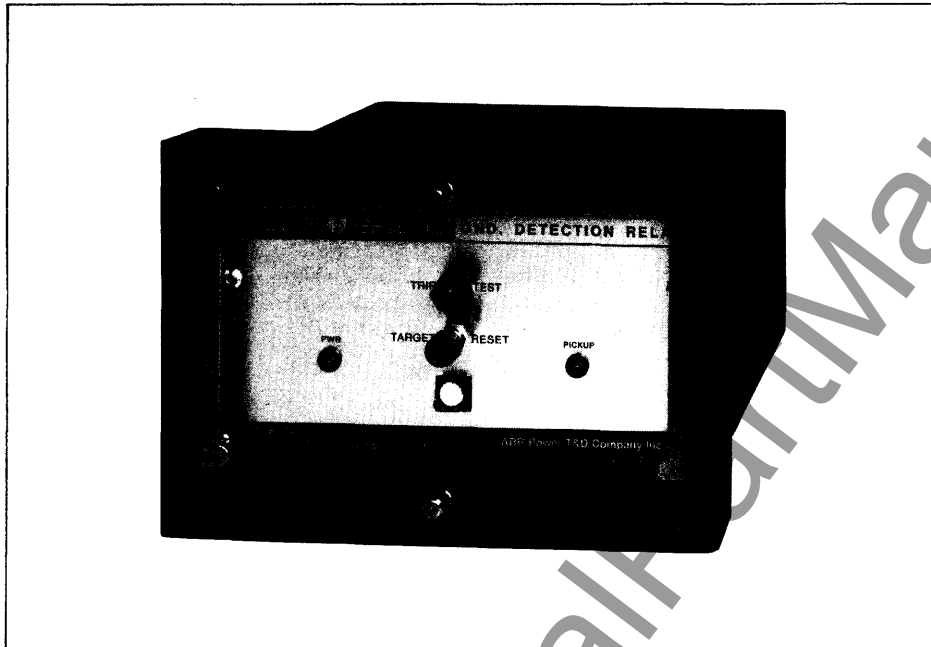


August 1995  
Supersedes Descriptive Bulletin 41-730S,  
pages 1 and 2, dated January 1991  
Mailed to: E, D, C/41-700B

Device Number: 64

## CIRCUIT SHIELD<sup>®</sup> Type 64F Ground Detection Relay



### Application

The Type 64F machine field ground detector relay is designed for the detection of grounds in normally ungrounded circuits such as a machine field winding. These ground faults should be detected and removed immediately since a second fault could cause extensive damage to the field winding.

The sensitivity of the relay in detecting grounds is a function of the nominal DC operating voltage and the point in the machine winding where the ground occurs. Lowest sensitivity occurs for grounds on the negative lead, and is approximately 5000 ohms.

To insure reliable detection, the machine rotor iron must be properly grounded without relying on a path through the rotor bearings. Consult the machine manufacturer for his recommended practice.

### Features

- Machine field ground detection
- Control power monitor contacts
- Low burden
- Seismic capability to 6g ZPA
- Transient immunity
- Drawout construction
- 2-year warranty
- UL recognized

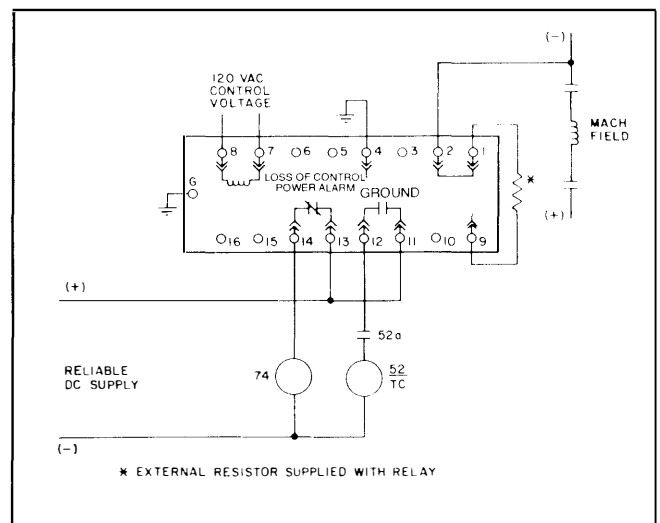


Figure 1. Typical Connections for Type 64F Relay

## Specifications

<b>Control Voltage:</b>	Models available for 120 Vac, 50/60 Hz, 0.05A max.
<b>Machine Field Voltage:</b>	Nominal 600 Vdc Ceiling 750 Vdc Reverse 1200 Vdc max.
<b>Sensitivity:</b>	See Figure 3. Minimum sensitivity 5000-ohms for ground on negative lead
<b>Operating Time:</b>	100 milliseconds typical
<b>Output Circuit:</b>	Tripping - 1 form A contact Alarm - 1 form B contact
<b>Output Rating:</b>	@125 Vdc 30A tripping 5A continuous 0.3A break inductive @120 Vac 30A tripping 5A continuous 1A break inductive
<b>Operating Temperature:</b>	Minus 20°C to plus 70°C
<b>Seismic Capability:</b>	More than 6g ZPA either axis biaxial multifrequency vibration without damage or malfunction ANSI/IEEE C37.98
<b>Transient Immunity:</b>	More than 2500V, 1 MHz bursts at 400 Hz repetition rate, continuous. (ANSI C37.90A SWC); Fast Transient Test; EMI test
<b>Dielectric Withstand:</b>	2000 Vac RMS, 60 seconds between circuits.
<b>Weight:</b>	Unboxed - 3.6 lbs. (1.6 Kg) boxed - 4.3 lbs. (1.9 Kg) Volume - 0.26 cubic feet

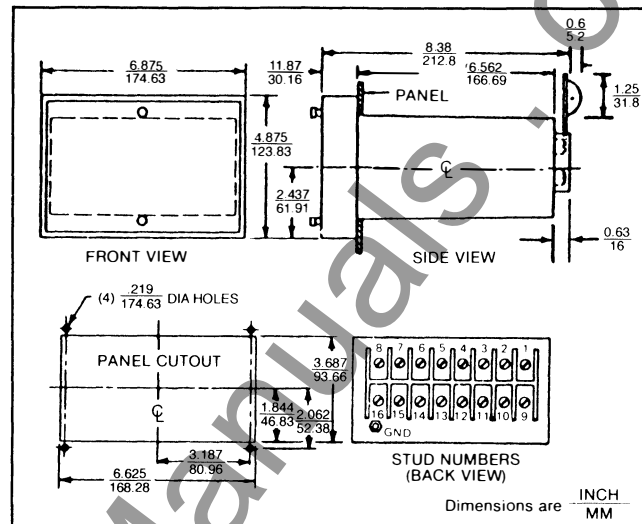


Figure 2. Relay Outline and Drilling

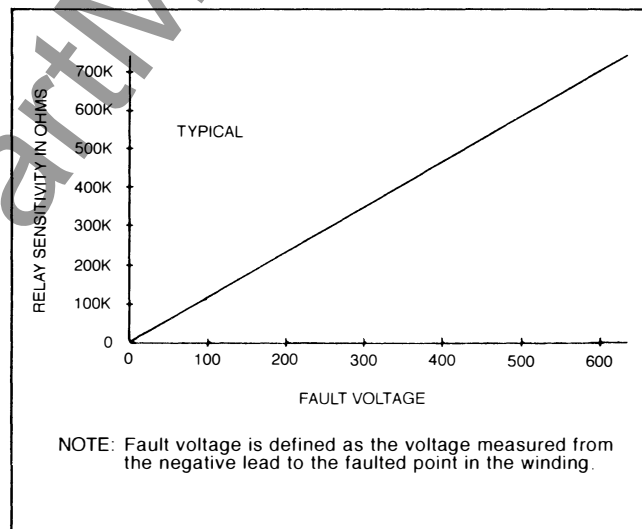


Figure 3. Sensitivity Characteristic

## How To Specify

Machine field detection relay: Relay shall be Asea Brown Boveri Type 64F or approved equal, drawout case, capable of withstanding up to 6g ZPA seismic stress without damage or malfunction. Relay shall have sensitivity of 5000 ohms to grounds on negative lead.

Built-in means shall be provided to allow operational tests without additional equipment.

## How To Order

For a complete listing of available versions of ground relays see TD 41-025.

To place an order, or for further information, contact the nearest ABB Representative.

## Further Information

List Prices: PL 41-020  
Technical Data: TD 41-025  
Instruction Book: IB 7.1.1.7-8  
Other Protective Relays:  
Application Selector Guide, TD 41-016  
Generator Protection Application Guide  
AN 41-7255



ABB Power T&D Company Inc.  
Relay Division  
Coral Springs, FL  
Allentown, PA

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Machine Field Ground Detector  
Semi-Flush Mounting  
120 Vac Control Voltage  
Time Curve: Instantaneous (0.1 sec.)

CIRCUIT SHIELD<sup>®</sup>  
**Type 64F**  
**Ground Detector**  
**Relay**

TYPE	SENSITIVITY (Minimum)	MACHINE FIELD VOLTAGE	OUTPUT	CATALOG NUMBER
64F	5000 Ohms ground on negative lead	Nominal: 600 Vdc or less Ceiling: 750 Vdc Reverse: 1200 Vdc max.	1 N.O. Trip (ground) 1 N.C. Alarm (loss of control power)	430F0261

Internal Connections: 16D430FG

Internal Connection Diagram

FIELD GROUND RELAYS – DRAWOUT CASE  
TYPE 64F

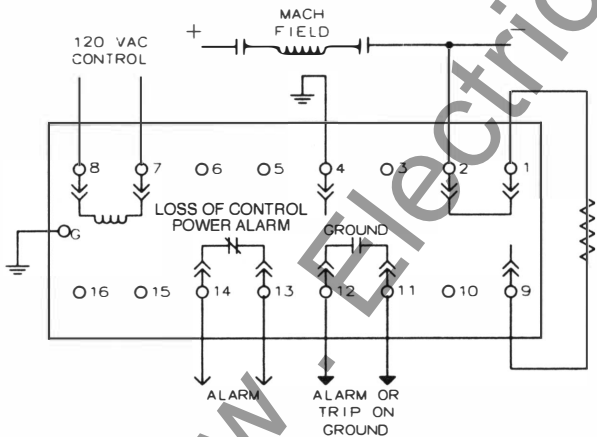


DIAGRAM 16D430FG