DBT

Digital Breaker Supervision

Supervision of the integrity of breaker tripping and closing coils.

Features and Benefits

- Simple dip switch setting
- Compact 19" rack mount case
- Digital technology
- Checks coil continuity regardless of breaker status
- Simultaneous supervision of up to three different coils
- Measures real resistance
- Time delay feature prevents mis-operation during transitions
- Inhibition switch for use during maintenance

Applications

- Supervising breaker tripping and closing coils

Protection and Control

- Breaker coils supervision
- Circuit breaker control power under-voltage

Monitoring and Metering

- DC power supply, coil resistance

Protection

The DBT is a digital relay that supervises the integrity of the breaker's tripping and closing coils. The relay checks the continuity of the coil regardless of the status of the breaker on single or three-pole tripping schemes. It can supervise three coils at the same time. A DC undervoltage unit checks the circuit breaker operating power supply voltage.

Monitoring and Metering

The DBT relay has an advantage over coil supervision relays which are based only on continuity, as it also measures real resistance. The advantage of this method is selectivity. The DBT is able to detect failures in the circuit breaker coils even when there are coils from different auxiliary circuits connected in parallel. In this situation a failure or a broken lead would not be detected based only on continuity, because there would be an alternative path in the parallel coil. The resistance measurement used by the DBT will detect this condition. In order to make this resistance measurement it injects a 5 mA current, measures the voltage drop, and calculates the resistance.

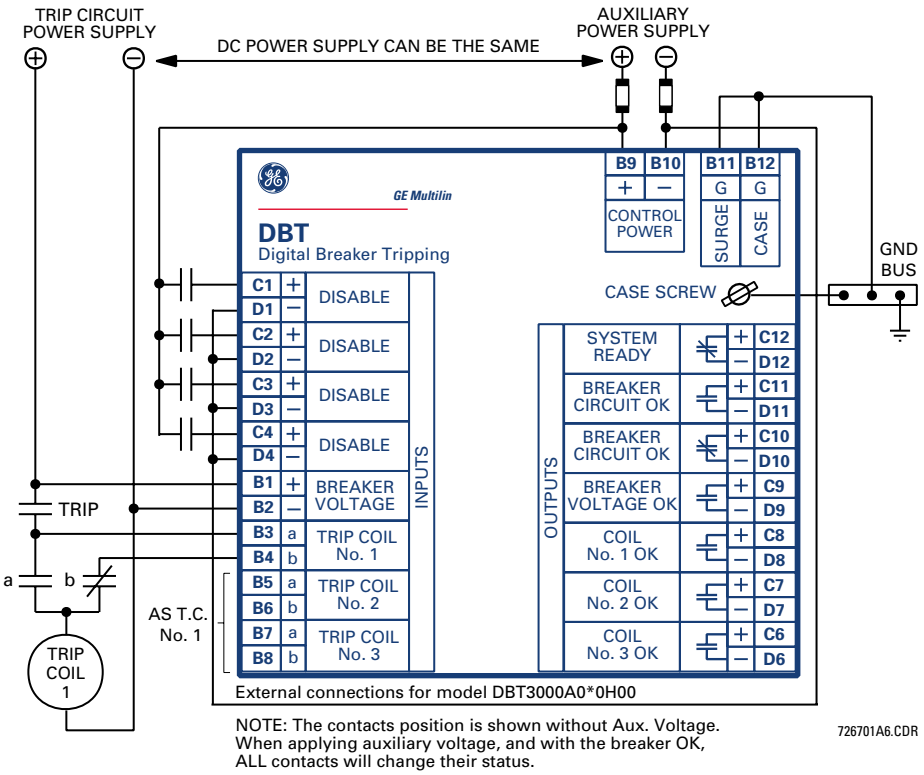
Ordering

DBT * 000 A 0 * 0 H **

DBT			Base DBT
	3		3 coils (three-phase)
		1	110 – 125 VDC
		2	220 – 250 VDC
		00	5 NO 1 NC (shown in typical wiring)
		01	1 NO 5 NC
		02	2 NO 4 NC

NOTE: If the breaker has only one coil, one DBT can be used to supervise three breakers, provided they use the same voltage supply.

Typical Wiring



DBT Technical Specifications

METERING

ACCURACY

Voltage:	±5%
Resistance:	±10%
Time:	20 ms

INPUTS

BURDENS

Voltage Burden:	
110/125 VDC model:	48 kΩ
220/250 VDC model:	96 kΩ
Digital Inputs Burden:	
110/125 VDC Model:	66 kΩ
220/250 VDC Model:	132 kΩ
DC Power Supply Burden:	<7.5 W

OUTPUTS

OUTPUT CONTACTS

Breaking Capacity:	4000 VA
Max DC Operating Voltage:	300 VDC
Max AC Operating Voltage:	440 VAC
Continuous Current:	16 A
Closing:	30 A

POWER SUPPLY

110/125 VDC, ± 20%
220/250 VDC, ±20%

APPROVALS

CE Compliant

ENVIRONMENTAL

Temperature Range:	
Operation:	-25° C to + 55° C
Storage:	-40° C to + 65° C according to IEC 255-6 and ANSI C37.90
Ambient Humidity:	up to 95% without condensation

PACKAGING

Weight:	
Net:	3 kg
Packed:	4 kg
Dimensions:	
Width:	483 mm (19")
Depth:	214 mm
Height:	43 mm (1 unit high)

*Specifications subject to change without notice.

Dimensions