TECHNICAL SPECIFICATIONS

PROTECTION

Frequency: Winding CT ratio: 50 or 60 Hz 1-4000 in 1 steps

Protection Settings: Winding tap: Winding configuration: 0.5-20 x l_n Y. D. ZZ Winding time group:

Y0, Y6, D1, D5, D7, D11

48/125 VDC 110/250 VDC

As auxiliary voltage

Winding CT configuration: Differential Function Settings:

0.2 - 0.4 x I_{tap} Sensitivity: K1 percentage restraint: 15 - 100% K2 percentage restraint: 15 - 100% 0 - 10 x I_{tap} K1-K2 inflexion: 2nd harmonic restraint: 12 - 100% 12 - 100% 5th harmonic restraint: 87B tap: 4 - 12 x I_{tap}

POWER SUPPLY Auxiliary Voltage:

OUTPUTS TRIPPING CONTACTS

Rated Voltage: 250 VAC Maximum Open na Voltage: 440 VAC **Rated Current:** 16 A **Closing Current:** Operating Power: 4ηηη VΔ Mechanical Life: 30 x 106 ops

INPUTS Digital Input Voltage: Thermal Capacity:

Current circuits: Continuous: During 1 sec: $100 \times I_n$ DC Burden: **Burden Per Active Input** 8mA per input

TYPE TESTS

The DTP equipment complies with the following standards, which include the GE insulation and electromagnetic compatibility stan-dard and the standards required by Community Directive 89/336 for the EC market, in line with European standards. It also complies with the European directive requirements for low voltage, and the envi-ronmental and operating requirements established in ANSI standards C37.90, IEC 255-5, IEC 255-6 and IEC 68.

Insulation Test Voltage: IEC 255-5, 600V, 2kV 50/60 Hz, 1 min Impulse Voltage Withstand:

IEC 255-5, 5 kV, 0.5 J IEC 255-22-1, Class III IEC 255-22-2, Class IV 1 MHz Interference: lectrostatic Discharge.
mmunity to Radio Interference:
IEC 255-22-3, Class III Electrostatic Discharge:

Electromagnetic Fields Radiated with Amplitude Modulation: ENV 50140, 10 V/m

Electromagnetic Fields Radiated with Amplitude Modulation: Common mode: ENV 50141, 10 V/m

Electromagnetic Fields Radiated with Frequency Modulation: ENV 50204, 10 V/m Fast Transients: IEC 255-22-4, EN 61000-4-4, Class IV

Magnetic Fields at Industrial Frequency:
EN 61000-4-8, 30 Av/m
RF Emission: EN 55011, Class B

COMMUNICATIONS

Half Duplex 1200 to 19200 bps Speed:

Physical Media: RS232 (ports 1,2)

Wave length:

Plastic fiber optic (port 2 optional)

HFBR-4516 Type of connector: Power supplied: Receiver's sensitivity: -8 dBm -39 dBm 660 nm Wave length: Glass fiber optic (port 2 optional) Type of connector: STA Power supplied: -17.5 dBm Receiver's sensitivity: -24.5 dBm

*Specifications subject to change without notice.

PACKAGING

Weight: Net:

26.4 lbs (12kg) Shipping: 28.6 lbs (13kg) NEED INCH EQUIVALENTS **Dimensions:** 437 x 200 x 176 mm (19" rack 4 units high)

ENVIRONMENTAL

Ambient Temperature Range: Operation: -20°C to +55°C Storage: -40°C to +85°C Up to 95% noncondensing **Humidity:**

CASE Metal Casing

IP52 grade protection (as per IEC 529)

GUIDEFORM SPECIFICATIONS

The main transformer protection shall be supplied as an integrated digital system. Standard current transformers shall be used to supply the AC inputs. Models shall be available with 2, 3, or four restraint windings.

820 nm

The following protection functions shall be included:

- Three phase percentage restraint current differential function
- Harmonic restraint which uses the 2nd and 5th harmonic of the differential current to prevent trips during transformer energization or overexcitation
- High-set, unrestrained, instantaneous differential function which acts as backup protection
- Internal or external settings for phase shift compensation and zerocurrent elimination

As well as the analog inputs for currents, the relay shall have seven digital inputs. A trip mask shall determine which of trip signals will activate the four trip contacts. Eight signalling outputs are provided.

Metering functions shall include:

- Line current for each phase and winding
- Differential current for each phase
- Through current for each phase
- Second and fifth harmonic current for each phase

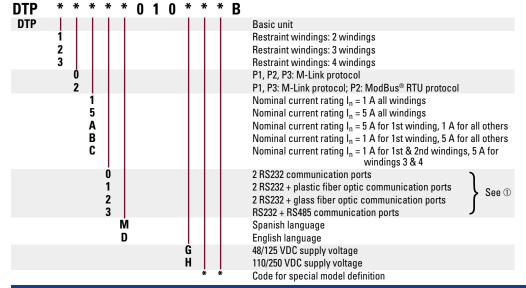
Monitoring functions shall include:

- Sequence of events recording with the last 166 events stored
- Oscillography with a sampling rate of 16 samples per cycle, 4 records stored
- Self-test diagnostics

The man machine interface shall include a 20 button keypad and a 2 line backlit LCD. Sixteen red LEDs each can be separately programmed to indicate any of the user definable alarms assigned from among the protection and communication states. Two serial gates and 3 connectors shall be included for remote or local access by a personal computer. Fiber optic connections and RS485 shall be available. The relay shall be packaged in a single 7 inch high (4 rack unit) 19 inch rack mount case.

ORDERING

To order select the basic model and the desired features from the Selection Guide below.



- ① 0 P1: RS232 P2: RS232 P3: Not available
 - 1 P1: RS232 P2: Plastic Fiber Optic P3: RS232
 - P1: RS232 P2: Glass Fiber Optic P3: RS232
 - 3 P1: RS232 P2: RS485 P3: Not available

NOTE: P1 (front) is switched with P3 (rear) P2 (rear) is independent

DTP revision level A

For ordering information and features on the earlier DTP (Revision A) please visit us at www.GEindustrial.com/pm