**X20****EARTH FAULT RELAY****FEATURES**

- Multifunction numerical relay
- 2 x 16 digits LCD Display
- Low-set Earth Fault
- High-set Earth Fault
- Definite time for low-set and high-set
- Five selectable IDMT characteristic curves
- Two independent group of protection settings
- RS485 MODBUS-RTU communication
- Event, fault and alarm records with timestamp
- Multifunction programmable output contacts
- Internal relay failure
- Multifunction programmable digital input
- Complies with IEC 60255 standard
- ANSI Code: 50N, 51N
- Compatible with Mikrosafe Software

TECHNICAL DATA**AUXILIARY SUPPLY**

Model X20-EFR-240AD
 Rated voltage : 100~240V AC or 140~340V DC
 Operating voltage : 85~265V AC or 110~370V DC
 Rated frequency : 50 or 60 Hz
 Operating frequency : 45 ~ 65 Hz
 Power consumption : 6VA max

Current Inputs

Rated current, I_{0n} : 5 A
 Frequency : 50 or 60 Hz nominal
 Burden : < 0.3 VA
 Thermal withstand : 4 x I_n continuous
 : 25 x I_n for 10s

DIGITAL INPUTS

Input type : Optically isolated
 Rated voltage : 20~380V DC or 50~270V AC

OUTPUT CONTACTS

Trip Contact Relay R1, R2, IRF Contact Relay R3
 Rated voltage : 250V AC / DC
 Continuous carry : 5A
 Expected electrical life : 100,000 operations at rated load
 Expected mechanical life : 5 x 10⁶ operations

RECORDS

Fault record : Up to 50 records, non-volatile
 Event record : Up to 250 records, non-volatile
 Alarm record : Up to 30 records, non-volatile

SETTING RANGES

Earth CT primary : 1 to 10,000 A
 Frequency : 50 or 60 Hz
 Earth fault $I_{0>}$: 0.02 to 2 x I_{0n} (Recommended up to 0.5 x I_{0n} for IDMT delay) *(Variable Steps)

 $I_{0>}$ Delaytype IDMT or definite time

$tI_{0>}$: 0 to 100 *(Variable Steps)
 $I_{0>} IDMT curve$: NI, VI, EI, LTI, NI 1.3/10
 $ktI_{0>}$: 0.01 to 1.00 (Step 0.01)
 $I_{0>>}$: 0.1 to 10 x I_{0n} *(Variable Steps)
 $tI_{0>>}$: 0 to 100 s *(Variable Steps)

*Variable Steps: 0.1-1.00: Step 0.01; 1.00-20: Step 0.1; >20: Step 1

MEASUREMENT RANGES

Earth current secondary: 0 to 50A

ENVIRONMENTAL CONDITIONS

Pollution degree : 2
 Operating temperature : -10 °C to 55 °C
 Storage temperature : -20 °C to 70 °C
 Humidity : 5% to 95%, non-condensing

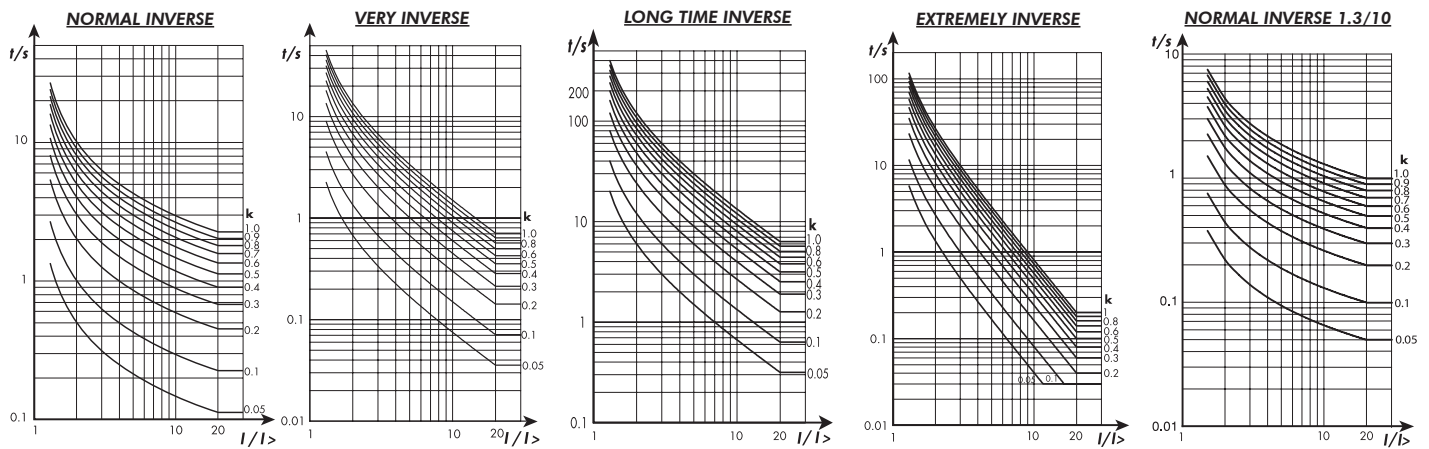
MECHANICAL

Mounting type : Panel mounting
 Dimension(mm) : 96(W) x 96(H) x 125(D)
 Enclosure protection : IP54 at panel
 Approximate weight : 0.7 kg

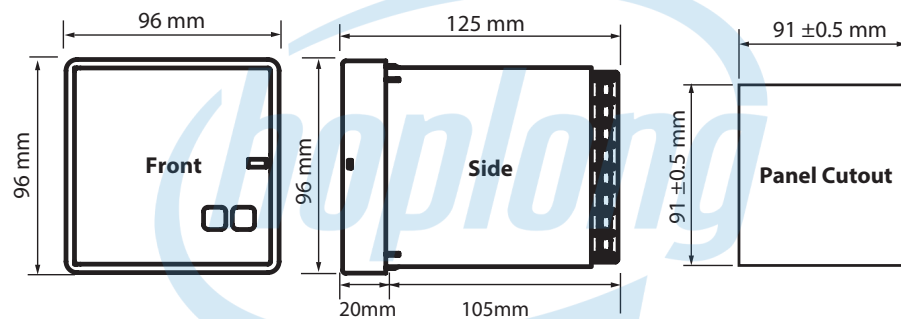
ACCURACY

Current accuracy : ± 3% of the set value or 20mA secondary
 Timing accuracy : ± 5% or ± 30ms

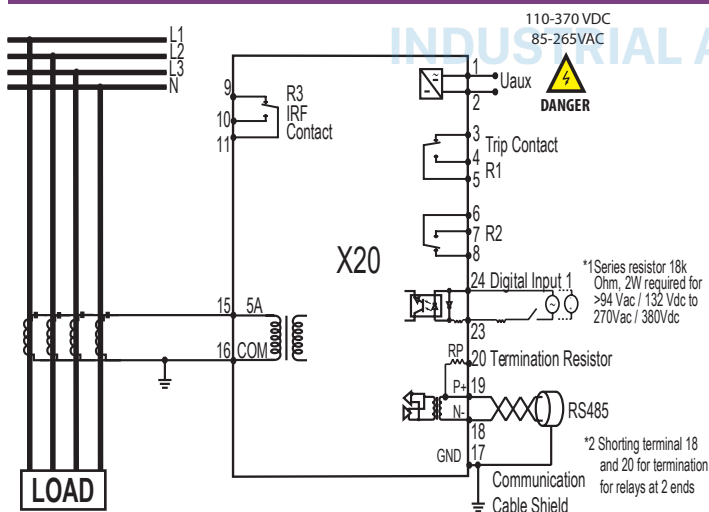
IDMT GRAPH



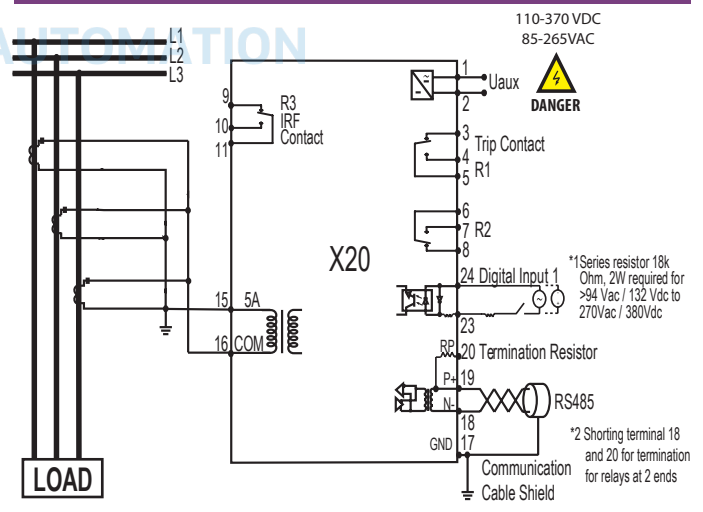
CASE DIMENSION



TYPICAL APPLICATION DIAGRAM 1



TYPICAL APPLICATION DIAGRAM 2



ORDERING INFORMATION

MODEL
X20-EFR-240AD

DESCRIPTION
For 50/60 Hz, auxiliary voltage 85 ~ 265V AC or 110 ~ 370V DC