ASL-441XLH 87L Protection Relay

POWER SYSTEM PROTECTION EQUIPMENT



ASL-441XLH 87L Protection Relay Multifunction numerical protection for high-voltage transmission lines Key Protection Functions ANSI 87L fiber-optic line differential protection Directional overcurrent protection Zero-sequence directional overcurrent protection Auto-reclosing with synchronism check Underfrequency islanding protection Overvoltage and undervoltage protection VT disconnection monitoring Fault recording and event logging Communication Ethernet · RS485 · IEC 61850 · IEC 60870-5-103 · IRIG-B

KEY FEATURES

- ANSI 87L fiber-optic line differential protection
- Directional overcurrent protection
- Zero-sequence directional overcurrent protection
- Auto-reclosing with synchronism check
- Underfrequency islanding protection
- Overvoltage and undervoltage protection
- VT disconnection monitoring
- Fault recording and event logging

COMMUNICATION BETWEEN LINE TERMINALS

Requirement	Description
Channel	Fiber optic (primary), microwave, or pilot wire
Synchronization	GPS or IEEE 1588 for accurate phase alignment
Data	Current phasors, status, channel health
Latency	< 5 ms typical
Redundancy	Dual channels recommended for critical lines

HOW TO SET AN ANSI 87L PROTECTION RELAY?

Factor	Key Consideration
1. CT Ratio	Select ratios to avoid saturation; match both terminals where possible.
2. Differential Pickup	Set above steady-state errors . Typical: 0.1–0.3 × I_{rated}.
3. Restraint Characteristic	Choose average or sum method per relay model.
4. Slope Coefficients	K1: 0.2–0.5 (sensitivity); K2: 0.5–0.8 (stability). Breakpoint: 2–4 × I_{rated}.
5. Communication Delay	Measure and compensate for channel latency. Fiber: < 1 ms; others: 2–5 ms.
6. CT Mismatch	Apply ratio correction or margin (1.05–1.15).
7. Fault Current	Use short-circuit study for min (sensitivity) and max (stability/saturation) values.

ORDERING INFORMATION

MOQ	LEAD TIME	TRADE TERMS	PAYMENT	WARRANTY
1 unit	7-15 working days	EXW / FOB / CIF / DDU	T/T, L/C, WU, PayPal	12 months