

Digital Protection End-to-End Commissioning Plan

Define ownership and evidence across the complete protection chain. Device-level tests are inputs; the final acceptance criterion is correct system behaviour from sensor to breaker.

Project / Site		Document No.	
Panel / Bay		Revision	
Prepared by		Date	
Witnessed by		Status	

Required records

Status	Checklist item	Evidence / comment
[]	Approved protection philosophy, trip matrix and single-line diagram available.	
[]	CT/VT or LPIT ratios, polarity and terminal references verified.	
[]	SCD/CID/IID files, settings exports, firmware inventory and network architecture controlled.	
[]	DC schematics, breaker data and interlocking cause-and-effect available.	

Hold point A - measurement chain

Status	Checklist item	Evidence / comment
[]	Verify primary polarity, phase identity, ratio and grounding.	
[]	Confirm sampled-value dataset, scaling, quality flags and phase mapping.	
[]	Prove loss-of-signal and invalid-quality responses.	

Hold point B - communications and time

Status	Checklist item	Evidence / comment
[]	Verify GOOSE publisher/subscriber references, VLAN and supervision.	
[]	Test network redundancy transitions and alarm behaviour.	
[]	Record time source, profile, lock state and loss-of-sync response.	

Hold point C - IED logic and outputs

Status	Checklist item	Evidence / comment
☐	Inject representative internal and external faults.	
☐	Verify pickup, direction, zone selection, blocking and breaker failure.	
☐	Trace each trip from logical node to physical or GOOSE output.	

Hold point D - trip circuit and breaker

Status	Checklist item	Evidence / comment
☐	Prove trip-coil continuity, trip-circuit supervision and DC polarity.	
☐	Measure relay output, coil energisation, auxiliary-contact change and main-contact response separately.	
☐	Verify local/remote authority and every maintenance isolation position.	

Close-out

Status	Checklist item	Evidence / comment
☐	Store signed results with settings hashes, SCL revision, firmware, test connections and deviations.	
☐	Define regression-test scope for each late design or configuration change.	

Overall result	☐ Accepted ☐ Accepted with comments ☐ Rejected	
Open actions		
Final approval	Name / signature: _____ Date: _____	

Use project-specific standards, approved drawings, settings and manufacturer instructions. This resource does not replace competent engineering judgement or contractual acceptance requirements.