

Transformer Protection Selector Guide



Features	Device	745	T35	T60
Protection & Control				
Transformer Differential	87T	•	•	•
Maximum Number of Windings		3	6	5
Harmonic Restraint		•	•	•
Internal Winding Phase Shift Compensation		•	•	•
Dynamic CT Ratio-Matching		•	•	•
CT Mismatch Range		16/1	32/1	32/1
Restricted Ground Fault	87RGF	•	•	•
Over-Fluxing (Voltz Per Hertz)	24	•	•	•
Phase Undervoltage	27P	•	•	•
IOC, Ground/Neutral/Phase	50G/N/P	G/N/P		G/N/P
TOC, Ground/Neutral/Phase	51G/N/P	G/N/P	G/P	G/N/P
Custom programmable overcurrent curves		•	•	•
Overvoltage, Neutral/Phase/Auxiliary	59N/P/X			N/P/X
Overvoltage, Symmetrical Component	59N			•
Current Directional, Neutral/Phase.	67 N/P			P/N
Voltage Transformer Fuse Failure	VTFF			•
Under/Overfrequency	81U/O	•		•
Synchrocheck	25			•
Transformer Overload	49	•	•	•
Lockout	86		•	•
Automation				
Settings Groups		4	6	6
Contact Inputs (Up to)		16	96	96
Contact Outputs (Up to)		8	64	64
Non-volatile latches			•	•
Programmable Logic		•	•	•
FlexElements™			•	•
Virtual Inputs/Outputs		16/16	64/96	64/96
Direct Inputs/Outputs			32/32	32/32
Programmable Pushbuttons			12	12
Trip/Close Coil Supervision		Trip	Trip/Close	Trip/Close
User-Programmable LEDs			48	48
User-Programmable Self Test			•	•
Selector Switch			•	•
Digital Counters			•	•
Digital Elements			•	•
Analog Inputs/Outputs (Up to)		1	24/12	24/12
RTD Inputs (Up to)		1	24	24
Monitoring & Metering				
Power Factor		•	•	•
Current – RMS		•	•	•
Current – Phasor			•	•
Current – Demand		•		•
Current - Unbalance		•		•
Voltage		•	•	•
Power - Apparent, Real, Reactive		•	•	•
MW, MVA, Mvar Demand				•
Breaker Arc Current			•	•
Energy		•	•	•
Frequency		•	•	•
Temperature			•	
Current Harmonics (Up to)		21		25
Loss of Life Calculations		•		•
Fault Report		•	•	•
User Programmable Trip Reports			•	•
Event Recorder - Number of Events		40	1024	1024
Oscillography - Sampling Rate		12	64	64
Trip Counters			•	•
Data Logger		•	•	•
Simulation Mode		•		
Communications				
RS232 Port		•	•	•
RS485 Port		•	•	•
RS422, G.703, C37.94			•	•
Ethernet		•	•	•
Fiber (800nm, 1300nm, 1550nm)			•	•
Protocols				
ModBus (RTU & TCP/IP)		•	•	•
DNP3		•	•	•
EGD Protocol			•	•
IEC61850			•	•
IEC 60870-5-104			•	•
Simple Network Time Protocol			•	•
TCP/IP			•	•
HTTP			•	•
IRIG-B Input		•	•	•
Process Bus (IEC 61850-9-2)			•	•