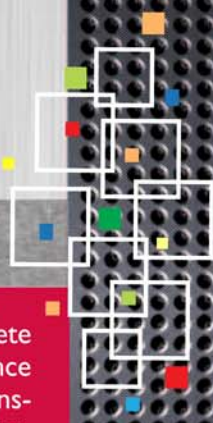


DTRV

PROTECT HUNGARY

EUROPROT +



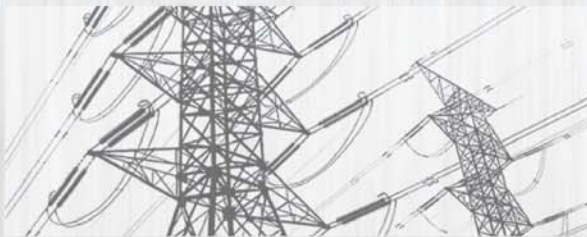
Use DTRV in power transformer and generator protection and control applications. Complete 2- and 3-winding transformer schemes in distribution and transmission networks including impedance function. Automatic voltage regulation and tap changer control function also for parallel coupled transformers. Predefined voltage control plan downloadable via FTP. Optional transformer position encoder.

Native IEC 61850 compatibility

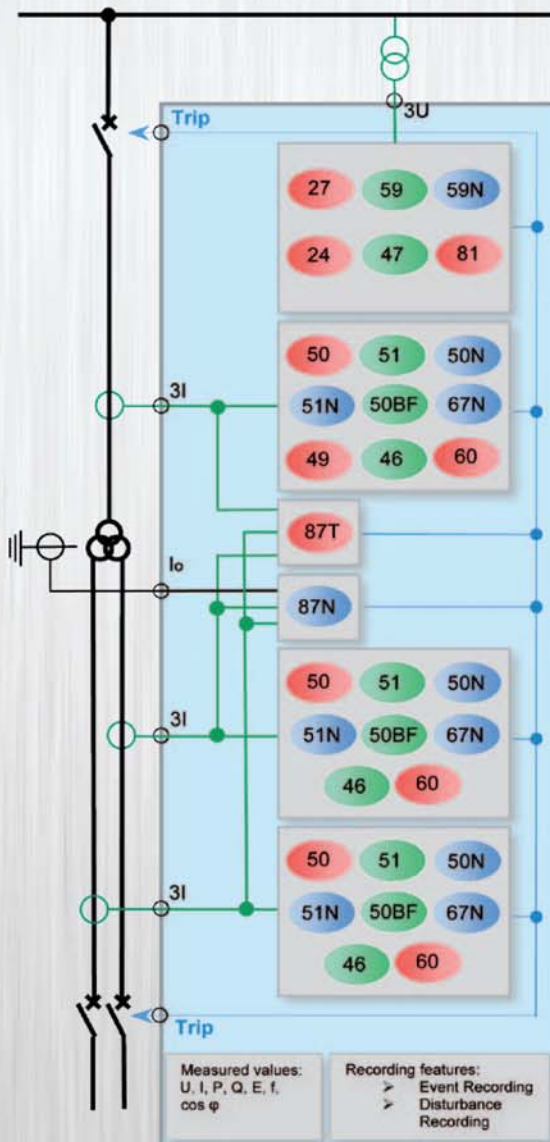


COLOR TFT TOUCHSCREEN
QVGA (320 x 240) 65536 color 3.5" (optionally 5.7") TFT display

- Biased differential protection characteristics
- Optional impedance protection
- Small generator protection including synchrocheck and synchroswitch functions
- Restricted earth fault protection
- Transformer inrush current minimizing function for expanding lifetime and maintenance reduction



- Use your web browser for complete device handling
- High capacity heavy duty trip contacts: 4A 220V DC breaking capacity
- Enhanced breaker monitoring
- Built-in PLC for user logic
- Full bay control feature



50, 51, 50N, 51N, 50BF, 67N, 46, 60, 87N functionblocks' CT assignments can be changed by user

PROTECTION, AUTOMATION & CONTROL

DTRV – CONFIGURATIONS



Configurations		E1	E2	E3	E4	E5	E6	E7	E8	E9
IEC	ANSI									
I >>>	50	X	X	X	X	X	X	X		X
I >, I >>	51	X	X	X	X	X	X		X	X
Io >>>	50N	X	X	X	X	X	X			X
Io >, Io >>	51N	X	X	X	X	X	X		X	X
Io Dir > >, Io Dir >>	67N		X	X		X	X		X	
	87G									X
	21								X	
$\Delta Z/M$	78									X
$I_2 >$	46	X	X	X	X	X	X	X	X	X
T >	49	X	X	X	X	X	X			X
$3I_2 T >$	87T	2w	2w	2w	3w	3w	3w			
REF	87N	X	X	X	X	X	X		X	
U >, U >>	59		X	X		X	X	X	X	X
U <, U <<	27		X	X		X	X	X	X	X
Uo >, Uo >>	59N		X	X		X	X		X	X
U ₂ >	47		X	X		X	X			X
f >, f >>	81O		X	X		X	X			X
f <, f <<	81U		X	X		X	X			X
dVdt	81R		X	X		X	X			X
V/Hz	24		X	X		X	X		X	X
	40									X
SYNC	25									X
	60									X
	60	X	X	X	X	X	X	X	X	X
CBFP	50BF	X	X	X	X	X	X			X
P >	32									X
P <	32									X

Version	Recommended application
E1	The DTRV E1 configuration measures three phase currents and the zero sequence current component from both sides of a two-winding, three-phase transformer. The main protection functions are transformer differential protection and restricted earth-fault protection functions. A thermal replica protection function is also included.
E2	This configuration is the functional extension of version DTRV E1. Additionally, it measures three phase voltages and the zero sequence voltage component. These measurements allow, in addition to the current- and voltage-based functions, directionality extension of the residual overcurrent function. Based on the voltage measurement, the frequency is also evaluated to realize frequency-based protection functions.
E3	This configuration is the functional extension of version DTRV E2. The device also implements a tap-changer controller function.
E4	This configuration is identical with the DTRV E1 and it can be applied to three-winding, three-phase transformers.
E5	This configuration is identical with the DTRV E2 and it can be applied to three-winding, three-phase transformers.
E6	This configuration is identical with the DTRV E3 and it can be applied to three-winding, three-phase transformers.
E7	This configuration is the functional extension of version DTRV E3. The tap-changer controller function also considers the voltage drop of serial network elements and the healthy state of the high voltage supply network. Voltage limitation functions are also included. Option to control parallel transformers is also available.
E8	This configuration is the functional extension of version DTRV E2. The main protection function in this application is the distance protection function.
E9	The DTRV E9 configuration is designed to protect generators in the 2.5 MVA to 50 MVA power range. The device includes all generator protection functions that are based on voltage and current measurement. Only protection functions requiring additional high voltage elements, such as injectors, are excluded from the range of functions.

