Digital Type Phase Directional Relay
DUT□K

★Information required with your inquiry or order. The pitch in parentheses need not be specified.

Application			Phase fault in transmission line						
Principle and name			Digital type phase directional relay						
Unit standard structure type		★Type	DUTUKTBS-1	DUTUKTBK-1	DUTUKTBA-1	DUTAKTBS-1	DUTAKTBK-1	DUTAKTBA-1
DQ series replacement type *1		*5, *7	DUTRKTBS-1	DUTRKTBK-1	DUTRKTBA-1	DUTBKTBS-1	DUTBKTBK-1	DUTBKTBA-1
Ratings	★Frequency	[Hz]	50, 60					
	★Voltage	[V] AC	110, 115					
	★Current	[A] AC	1, 5					
	Setting range *2	★Operate voltage [V]	2.2 (fixed) *With voltage memory function *6, *8					
		★Operating current [A]	5A Rating: 0.1 to 1.0 (0.01), 1.0 to 8.0 (0.1), 2.0 to 12.0 (0.1) 1A Rating: 0.2 to 1.6 (0.1), 0.4 to 2.4 (0.1) *6, *10					
		★Max. sensitivity phase angle θ [°]	45 (fixed)					
		★Operate time [s]	0 to 3 (0.1), {Zero is instantaneous (50ms or less)}					
	Output duration *3	[s]	1±0.1	0.2±0.1	0.2±0.1	1±0.1	0.2±0.1	0.2±0.1
	Burden		Voltage circuit : 1VA, rated Current circuit : 0.4VA, rated					
	Continuous withstand input	[% of rating]	Voltage circuit : 115, Current circuit : 100					
	Auxiliary energizing source *4	★Voltage [V]	100, 110, 125, 200, 220, 250 DC			100, 110, 127, 200, 220, 250 AC 50, 60Hz		
		Rated burden	100, 110, 125V DC rating: 6.5W 200, 220, 250V DC rating: 8.5W			100, 110, 127V AC rating: 15VA 200, 220, 250V AC rating: 20VA		
Operation indicating	Display hold function *10		With	With	–	With	With	–
	Operation indicators		LED: Operation x 1			LED: Operation x 1, Magnetic inversion: Operation x 1		LED: Operation x 1
Contacts	Arrangement		Trip: 1NO ("a" make contact), Alarm: 1NC ("b" break contact), External output: 1NO					
	Limiting making capacity	[A]	15 (R-load, 0.5s, 110V DC)					
	Continuous current carrying capacity	[A]	5					
	Limiting breaking capacity	[VA] DC	10 (L-load, L/R=0.04, 110V DC)					
Characteristics	Influenced by phase angle *5		Operate phase angle is (θ+80°)±5° leading max., (θ+280°)±5° lagging max., under 1000% of operate current setting. Max. sensitivity phase angle (θ) is ±5° max. of setting value. *9					
	Influenced by voltage-current *5		Operate current accuracy is ±5% max. of setting value under max. sensitivity phase angle (θ). Others are within 15% (The input phase of voltage and current). *10					
	Accuracy	Operate voltage [%]	±10					
		Operate current [%]	±5 (Accuracy guaranteed setting range). Others are within ±15% *10					
		Max. sensitivity phase angle θ [°]	±5 (Input rated voltage and 1000% of operating current setting) *9					
		Operate time [s]	See the operate time charactaristics.					
	Resetting time	[s]	1±0.1	0.2±0.1	0.2±0.1	1±0.1	0.2±0.1	0.2±0.1
	Holding factor	[%]	Voltage circuit: 10, Current circuit: 5 (Accuracy guaranteed setting range), others:10 *10					
Mass		[kg]	2					
Outline drawing	Unit standard structure type		Fig. DUT1					
	DQ series replacement type		Fig. DUT2					
Previous relay type			DQWPC□HH DQWPC□HG	DQWPC□HB DQWPC□HD	DQWPC□HA DQWPC□HN	DQWPC□HH DQWPC□HG	DQWPC□HB DQWPC□HD	DQWPC□HA DQWPC□HN

Notes

*1 : DQ series replacement relay having the same external terminal arrangement with DQ series relay. DQ series replacement relay with panel mounting adapter that has the same depth with DQ series relay, is also available. For details, contact Fuji.

*2 : The value in parentheses indicates the pitch.

*3 : The output duration of 1±0.1s is used in the case of the circuit breaker tripping, and that of 0.2±0.1s is used on other occasions.

*4 : Power interruption guarantee time of AC auxiliary energizing source is 2s. However, it may exceed 2s depending on input or operating conditions.

*5 : Noise immunity per B-402 (Digital Protective Relays and Protective Equipment).

*6 : To connect input terminals of voltage and curent, use a line voltage as input voltage and adopt 90° connection with phase current for input current.

*7 : Refer to the identifications on page 8 for the tenth digit or later of the code symbol.

*8 : An operating voltage is fixed to 2.2V (corresponding to 2% of a rated voltage). Internal processing of a voltage memory function is adopted for a voltage input section. If considering short curcuit of three phase of a nearest end, select "output duration specification: Slow reset type (8th digits of the type: S). "It is recommended to select "Operating time setting: 0s" for operation.

*9 : If overcurrent of 15A or more is caused by an operating current setting on input current conditions, you can apply "200% of an operating current setting" as an input current condition for decision.

*10 : The following gives the accuracy guaranteed setting range.

Rating	Operating current setting range	Accuracy guaranteed setting range
5A	0.1 to 1.0A	0.2 to 1.0A
5A	1.0 to 8.0A	2.0 to 8.0A
5A	2.0 to 12.0A	4.0 to 12.0A
1A	0.2 to 1.6A	0.4 to 1.6A
1A	0.4 to 2.4A	0.8 to 2.4A