

Harmony Timer Relays




Near Field Communication and conventional Timer Relays

Definitions

The following definitions explain relay operation:

■ Relay output:

This is the most common type of output. When the relay is energized, the moving armature is attracted by the coil and so actuates the contacts, which change state. When the relay is de-energized, both the armature and the contacts revert to their initial position. This type of output allows complete isolation between the power supply and the output. There are three types of output contact:

CO: Changeover contact, i.e. when the relay is de-energized, the circuit between the common point C and NC is closed and when the relay is operating (coil energized), it closes the circuit between the common point C and the NO contact.	
NC: A contact that is closed without being actuated is called a Normally Closed (NC) contact.	
NO: A contact that closes when actuated is called a Normally Open (NO) contact.	

■ Solid state output:

This output is entirely electronic and involves no moving parts; service life is therefore increased.

■ Breaking capacity:

The current value that a contact is capable of breaking in specified conditions.

■ Mechanical durability:

The number of mechanical operating cycles of the contact or contacts.

■ Minimum switching capacity (or minimum breaking capacity):

This is the minimum required current that can flow through the contacts of a relay.

■ X1/X2/Y1/Gate control input:

Control input allows timing in progress to be interrupted without it being reset.

Functions

Timing functions are identified by letters. For the complementary functions, select the main timing function using the selection dial in the front panel; refer to functional diagrams for connection.

Main timing functions	Complementary functions (1)	Definitions
A (2)		Power on-delay relay
	Ac	On-delay and off-delay relay with control signal
	Act	On-delay and off-delay relay with control signal and pause/summation control signal
	Ad	Pulse delayed relay with control signal
	Ah	Pulse delayed relay (single cycle) with control signal
	Ak	Asymmetrical on-delay and off-delay relay with control signal
	Akt	Asymmetrical on-delay and off-delay relay with control signal and pause/summation control signal
	At	Power on-delay relay with pause/summation control signal
B (2)	Aw	Power on-delay relay with retrigger/restart control signal
		Single interval relay with control signal
C (2)	Bw	Double interval relay with control signal
		Off-delay relay with control signal
D (2)	Ct	Off-delay relay with control signal and pause/summation control signal
		Symmetrical flashing relay (starting pulse-off)
	Di (2)	Symmetrical flashing relay (starting pulse-on)
	Dit	Symmetrical flashing relay (starting pulse-on) with pause/summation control signal
	Diw	Symmetrical flashing relay (starting pulse-on) with retrigger/restart control signal
	Dt	Symmetrical flashing relay (starting pulse-off) with pause/summation control signal
H (2)	Dw	Symmetrical flashing relay (starting pulse-off) with retrigger/restart control signal
		Interval relay
	He	Pulse-on de-energization
	Ht	Interval relay with pause/summation control signal
K	Hw	Interval relay with retrigger/restart control signal
		Delay on de-energization (without auxiliary supply)
L (2)		Asymmetrical flashing relay (starting pulse-off)
	Li (2)	Asymmetrical flashing relay (starting pulse-on)
	Lit	Asymmetrical flashing relay (starting pulse-on) with pause/summation control signal
	Lt	Asymmetrical flashing relay (starting pulse-off) with pause/summation control signal

(1) Complementary functions enhance the main timing functions. Example: **Ac**: timing after closing and opening of control contact.

(2) The most commonly used timing functions.

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Definitions (continued)		
Main timing functions	Complementary functions (1)	Definitions
N		Safe-guard relay
O		Delayed Safe-guard relay
P		Pulse delayed relay with fixed pulse length
	Pt	Pulse delayed relay with fixed pulse length and pause/summation control signal
Q		Star-delta relay (2 NO outputs with same common)
	Qc	Star-delta relay (1 CO output)
	Qe	Star-delta relay (1 NC + 1 NO outputs with split common)
	Qg	Star-delta relay (2 CO outputs with same common)
	Qgt	Star-delta relay (2 CO outputs with same common) with pause/summation control signal
	Qt	Star-delta relay (2 CO outputs with split common)
	Qtt	Star-delta relay (2 CO outputs with split common) with pause/summation control signal
T	TI	Bistable relay with control signal on
	Tt	Retriggerable bistable relay with control signal on
W		Interval relay with control signal off
	Wt	Interval relay with control signal off and pause/summation control signal

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