

## RATING

### 1. Coil data

#### 1) 1 coil latching type

Nominal coil voltage	Set voltage (at 20°C 68°F)	Reset voltage (at 20°C 68°F)	Nominal operating current [ $\pm 10\%$ ] (at 20°C 68°F)	Coil resistance [ $\pm 10\%$ ] (at 20°C 68°F)	Nominal operating power	Max. applied voltage (at 20°C 68°F)
3V DC	*80%V or less of nominal voltage (Initial)	*80%V or less of nominal voltage (Initial)	66.7mA	45 $\Omega$	200mW	110%V of nominal voltage
5V DC			40.0mA	125 $\Omega$		
6V DC			33.3mA	180 $\Omega$		
9V DC			22.2mA	405 $\Omega$		
12V DC			16.7mA	720 $\Omega$		
24V DC			8.3mA	2,880 $\Omega$		

#### 2) 2 coil latching type

Nominal coil voltage	Set voltage (at 20°C 68°F)	Reset voltage (at 20°C 68°F)	Nominal operating current [ $\pm 10\%$ ] (at 20°C 68°F)		Coil resistance [ $\pm 10\%$ ] (at 20°C 68°F)		Nominal operating power		Max. applied voltage (at 20°C 68°F)
			Set coil	Reset coil	Set coil	Reset coil	Set coil	Reset coil	
3V DC	*80%V or less of nominal voltage (Initial)	*80%V or less of nominal voltage (Initial)	133.3mA	133.3mA	22.5 $\Omega$	22.5 $\Omega$	400mW	400mW	110%V of nominal voltage
5V DC			80.0mA	80.0mA	62.5 $\Omega$	62.5 $\Omega$			
6V DC			66.7mA	66.7mA	90 $\Omega$	90 $\Omega$			
9V DC			44.4mA	44.4mA	202.5 $\Omega$	202.5 $\Omega$			
12V DC			33.3mA	33.3mA	360 $\Omega$	360 $\Omega$			
24V DC			16.7mA	16.7mA	1,440 $\Omega$	1,440 $\Omega$			

\*Square, pulse drive

## 2. Specifications

Characteristics	Item	Specifications		
		Standard type	Inrush type	
Contact	Arrangement	1 Form A		
	Contact resistance (Initial)	Max. 100 m $\Omega$ (By voltage drop 6 V DC 1A)		
	Contact material	AgSnO <sub>2</sub> type		
Rating	Nominal switching capacity (resistive load)	8A 250V AC	16A 277V AC	
	Max. switching power (resistive load)	2,000VA	4,432VA	
	Max. switching voltage	250V AC	277V AC	
	Max. switching current	8A AC	16A AC	
	Nominal operating power	200mW (1 coil latching type), 400mW (2 coil latching type)		
Electrical characteristics	Min. switching capacity (Reference value)*1	100mA 5 V DC		
	Insulation resistance (Initial)	Min. 1,000M $\Omega$ (at 500V DC, Measurement at same location as "Breakdown voltage" section)		
	Breakdown voltage (Initial)	Between open contacts	1,000 Vrms for 1min. (Detection current: 10mA)	
		Between contact and coil	5,000 Vrms for 1min. (Detection current: 10mA)	
	Surge breakdown voltage*2 (Between contact and coil)	12,000 V (Initial)		
	Set time (at 20°C 68°F) (Initial)	Max. 15 ms (Nominal voltage applied to the coil, excluding contact bounce time)		
Reset time (at 20°C 68°F) (Initial)	Max. 15 ms (Nominal voltage applied to the coil, excluding contact bounce time)			
Mechanical characteristics	Shock resistance	Functional	100 m/s <sup>2</sup> (Half-wave pulse of sine wave: 11 ms; detection time: 10 $\mu$ s)	
		Destructive	1,000 m/s <sup>2</sup> (Half-wave pulse of sine wave: 6 ms)	
	Vibration resistance	Functional	10 to 55 Hz at double amplitude of 2 mm (Detection time: 10 $\mu$ s)	
		Destructive	10 to 55 Hz at double amplitude of 3 mm	
Expected life	Mechanical	Min. 10 <sup>6</sup> (at 180 times/min.)		
	Electrical	Resistive load	Min. 5 $\times$ 10 <sup>4</sup> (at 8A 250V AC, at 20 times/min.) Min. 10 <sup>5</sup> (at 5A 250V AC, at 20 times/min.) (IEC60335-1 type only)	Min. 2 $\times$ 10 <sup>4</sup> (at 16A 277V AC, ON:OFF = 1s:5s) Min. 5 $\times$ 10 <sup>4</sup> (at 8A 250V AC, at 20 times/min.)
		Inrush current	—	Min. 2.5 $\times$ 10 <sup>4</sup> [Inrush 100A 600W (120V AC) Tungsten] Cycle rate ON:OFF = 1s:59s
Conditions	Conditions for operation, transport and storage*3 *4	Temperature: -40°C to +85°C -40°F to +185°F Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature)	Temperature: -40°C to +85°C -40°F to +185°F (8A or less), -40°C to +70°C -40°F to +158°F (Over 8A to 16A) Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature)	
Unit weight		Approx. 8 g .28 oz (Low profile type: Approx. 7.5 g .26 oz)		

Notes: \*1. Minimum switching load is a guide to the lower current limit of switching under the micro-load. This parameter is changed by the condition, such as switching times, environment condition, and expected reliability. Therefore, Panasonic Corporation cannot assure the reliability. When the relay is used lower than minimum switching load, reliability is attrition. Please use the relay over minimum switching load.

\*2. Wave is standard shock voltage of  $\pm 1.2 \times 50\mu$ s according to JEC-212-1981

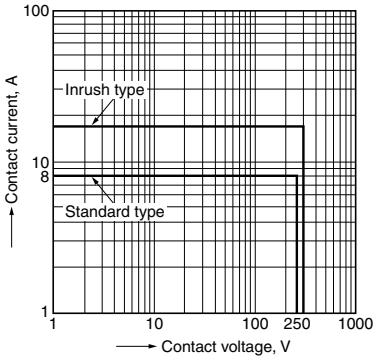
\*3. The upper limit of the ambient temperature is the maximum temperature that can satisfy the coil temperature rise value. Refer to Usage, transport and storage conditions in NOTES.

\*4. Allowable range when in original packaging is -40°C to +70°C -40°F to +158°F.

**REFERENCE DATA**

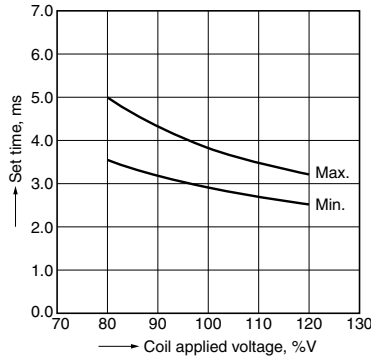
■ Standard type and Inrush type

1. Max. switching capacity (AC resistive load)



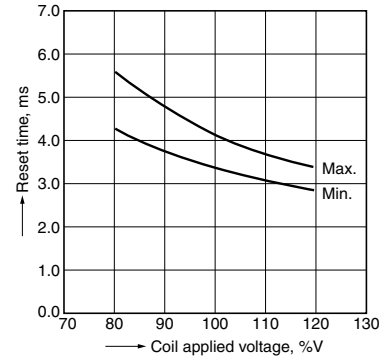
■ Standard type

1. Set time (1 coil latching type)  
 Tested sample: ADW1106, 15 pcs  
 Ambient temperature: 28°C 82.4°F  
 Contact load: 5V DC, 10mA



2. Reset time (1 coil latching type)

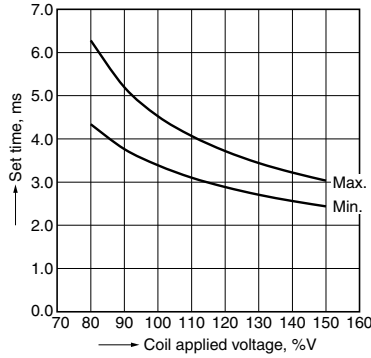
Tested sample: ADW1106, 15 pcs  
 Ambient temperature: 28°C 82.4°F  
 Contact load: 5V DC, 10mA



■ Inrush type

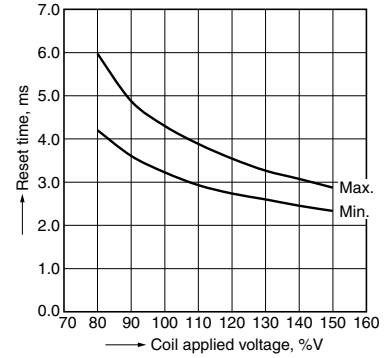
1. Set time (1 coil latching type)

Tested sample: ADW1112HL, 30 pcs  
 Ambient temperature: 28°C 82.4°F  
 Contact load: 5V DC, 10mA



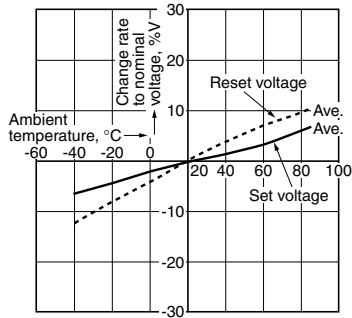
2. Reset time (1 coil latching type)

Tested sample: ADW1112HL, 30 pcs  
 Ambient temperature: 28°C 82.4°F  
 Contact load: 5V DC, 10mA



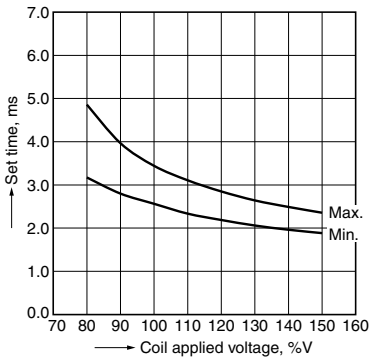
3. Ambient temperature characteristics

Tested sample: ADW1106, 6pcs  
 Ambient temperature: -40°C to +85°C  
 -40°F to +185°F



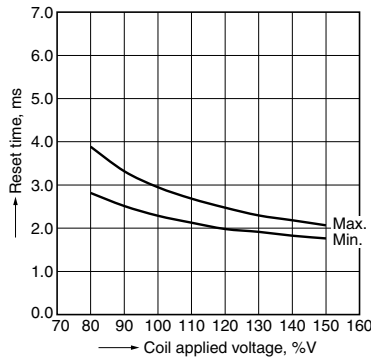
3. Set time (2 coil latching type)

Tested sample: ADW1212HL, 30 pcs  
 Ambient temperature: 28°C 82.4°F  
 Contact load: 5V DC, 10mA



4. Reset time (2 coil latching type)

Tested sample: ADW1212HL, 30 pcs  
 Ambient temperature: 28°C 82.4°F  
 Contact load: 5V DC, 10mA



5. Ambient temperature characteristics

Tested sample: ADW1105HL, 6pcs  
 Ambient temperature: -40°C to +85°C  
 -40°F to +185°F

