

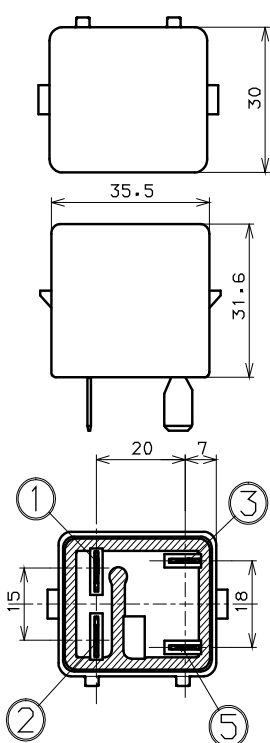
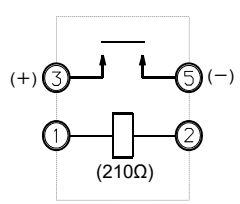
Pre-charge Relay			Model :HA	
Dimensions	Contact	Basic Performance		
	—	Contact	Operating voltage	Max. DC400V
	Wiring Diagram		Contact current (Fig.1)	0.1~15A
		Coil	Voltage drop loss between contacts	Max. 0.5V (at15A)
			Rated voltage	DC12V
			Rated coil current (Between terminal ①and②)	0.057±0.011A (at 20℃)
		Coil resistance	210Ω	
		Operating temp. and voltage range (Fig.2)	Operating voltage	6.8~16V (at20℃)
			Pull-in voltage	Max. 6.8V (at20℃)
			Drop-out voltage	1.0~3.5V (at20℃)
		Time rating	Continuous operation	
		Insulation resistance	Min. 100MΩ <div>[ With 1000V megger under normal temp. and normal humidity ]</div>	
		Installation position	Cabin	
	Application	Pre-charge , Charge		
	Note	The specifications are initial value.		

Fig.1 Operating temp. and current range

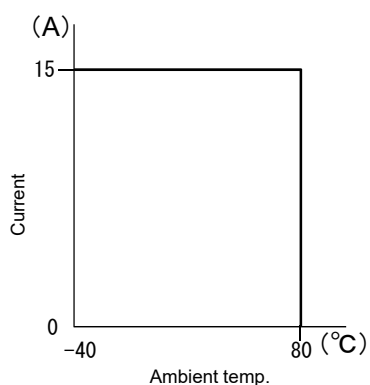


Fig.2 Operating temp. and voltage range

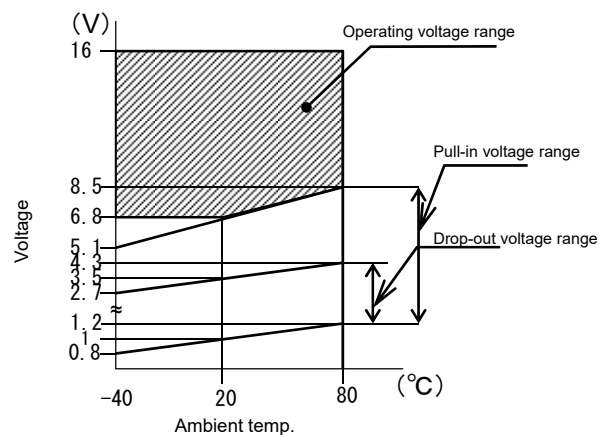


Table 1. Durability Performance (Coil voltage : at  $14 \pm 0.5\text{V}$ )

Operation time	100,000
Maximum contact current	15A @ DC360V ,(1time)