8 Dynamic Reactive Power Compensation Device Series (HY-TSC)

Dynamic Reactive Power Compensation Device Series

HY-TSC dynamic reactive power compensation device adopts thyristor as switching switch, according to the reactive power control strategy to switch the capacitors in real time to achieve the dynamic balance of reactive power.The device has improved the power factor of power supply system, to avoid power rate fine, reduce the grid current to achieve energy saving.

The device is widely used in industrial and mining enterprises, petroleum, automobiles, shipbuilding, power plants, substations, steel, electric drive, metallurgy, chemical, construction, communications, shopping mall buildings, institutions schools, hospitals, airports and other occasions.

MODEL

HY-TSC-0.4/□ -4L

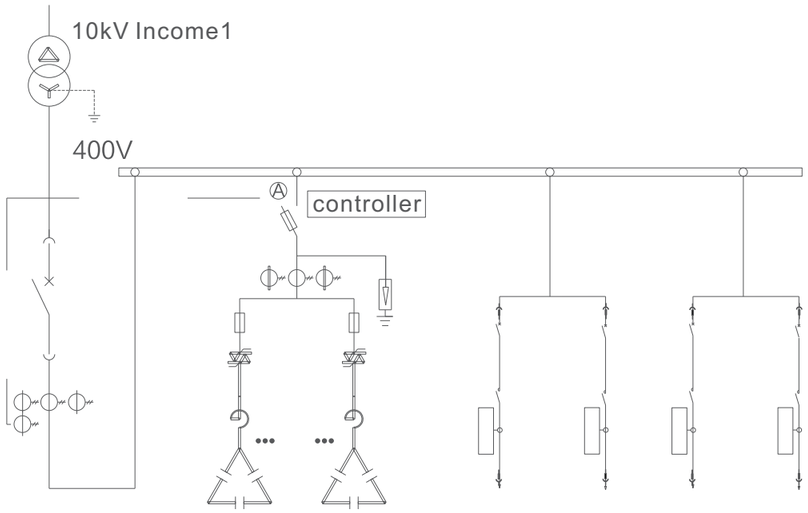
- **Method of connecting wire**: Three-phase four-wire system
- **Rated compensation capacity** (unit: kVar)
- **Voltage grade:0.4kV**
- **Dynamic reactive power compensation device**
- **Huayi LV electric brand name**

PRODUCT FEATURE

- Adopt thyristor switching switch, zero-crossing switching, no impact current or overvoltage
- A variety of optional switching way (circular switching, stacked switching, etc.), for a variety of occasions
- The dynamic response time≤20ms
- Dynamic display system power factor, voltage, current, frequency, active, reactive and other power parameters
- Over voltage, over current, short circuit, over temperature and other alarm functions
- Power automatic recovery function
- Three-phase together and split phase compensation are optional

WORKING PRINCIPLE

HY - TSC through real-time detecting voltage, current signal and using DSP for data processing operations, and applying reactive voltage comprehensive control strategy, gives out switching action command, touch off thyristor action to achieve capacitor switching and compensate system reactive power.



TECHNICAL PARAMETERS

Item	Parameters
Rated Voltage	AC400V ± 20%
Rated frequency	50Hz
Method of connecting wire	three-phase three-wire/three-phase four-wire
The objective power factor	lag 0 .99~0.85 (can be set arbitrary)
Dynamic response time	≤20ms
Switching delay	20ms~100s
Overcurrent capability	1.3 times of rating value
Protection grade	Ip30, other can be customized
Type of installation	Indoor/outdoor installation
Atmospheric conditions	In the temperature + 40 ℃, the air relative humidity is not more than 90%
Environmental conditions	No violent vibration and impact, no conductive and explosive dust, no corrosive gas
Ambient temperature	−10℃~+40℃
The altitude	≤2000m, special altitude should be customized

COMMON SELECTION TABLE

The total capacity /kVar	315	630	800	1000	1250	1600	2000
Capacity /kVar	100	200	250	300	400	500	600
Installation mode	Floor-standing type						
Cabinet number (parallel operation)	1	1	1	1	2	2	2
Product dimension	standard model is GGD type, dimension (W*D*H)/mm: 800 * 800 * 2200, if the user has other requirements, it is customizable						

REACTIVE POWER COMPENSATION CAPACITY CHART

Power factor before compensation	The objective power factor after compensation												
	0.7	0.75	0.8	0.82	0.84	0.86	0.88	0.9	0.92	0.94	0.96	0.98	1
0.3	2.16	2.3	2.43	2.48	2.53	2.59	2.64	2.7	2.76	2.82	2.89	2.98	3.18
0.35	1.66	1.8	1.93	1.98	2.03	2.09	2.14	2.19	2.25	2.32	2.39	2.48	2.68
0.4	1.27	1.41	1.54	1.59	1.65	1.7	1.76	1.91	1.87	1.93	2	2.09	2.29
0.45	0.97	1.11	1.24	1.29	1.34	1.4	1.45	1.5	1.56	1.63	1.7	1.78	1.99
0.5	0.71	0.85	0.98	1.03	1.09	1.14	1.2	1.25	1.31	1.37	1.44	1.53	1.73
0.52	0.62	0.76	0.89	0.95	1	1.05	1.1	1.16	1.22	1.28	1.35	1.44	1.53
0.54	0.54	0.68	0.81	0.86	0.92	0.97	1.02	1.08	1.14	1.2	1.27	1.36	1.56
0.56	0.46	0.6	0.73	0.78	0.84	0.89	0.94	1	1.05	1.12	1.19	1.28	1.46
0.58	0.39	0.52	0.66	0.71	0.76	0.81	0.87	0.92	0.98	1.05	1.12	1.21	1.41
0.6	0.31	0.45	0.58	0.64	0.69	0.74	0.8	0.86	0.91	0.97	1.04	1.13	1.33
0.62	0.25	0.39	0.52	0.57	0.62	0.67	0.73	0.78	0.84	0.91	0.97	1.06	1.27
0.64	0.18	0.32	0.45	0.51	0.56	0.61	0.67	0.72	0.78	0.84	0.91	1	1.2
0.66	0.12	0.26	0.39	0.45	0.49	0.55	0.6	0.66	0.71	0.78	0.85	0.94	1.14
0.68	0.06	0.2	0.33	0.38	0.43	0.49	0.54	0.6	0.65	0.72	0.79	0.88	1.08
0.7		0.14	0.27	0.32	0.38	0.43	0.49	0.54		0.66	0.73	0.82	1.02
0.72		0.08	0.22	0.27	0.32	0.38	0.43	0.48	0.54	0.6	0.68	0.76	0.97
0.74		0.03	0.16	0.21	0.26	0.32	0.37	0.43	0.48	0.55	0.62	0.71	0.91
0.76			0.11	0.16	0.21	0.26	0.32	0.37	0.43	0.5	0.57	0.65	0.85
0.78			0.05	0.11	0.16	0.21	0.27	0.32	0.38	0.44	0.51	0.6	0.8
0.8				0.05	0.1	0.16	0.21	0.27	0.33	0.39	0.46	0.55	0.75
0.82					0.05	0.1	0.16	0.22	0.27	0.34	0.41	0.56	0.7
0.84						0.06	0.11	0.17	0.22	0.29	0.35	0.45	0.65
0.86							0.06	0.11	0.17	0.23	0.3	0.39	0.59
0.88								0.06	0.11	0.18	0.25	0.34	0.54
0.9									0.06	0.12	0.19	0.28	0.48

Note: The data in the table is the reactive power compensation required for 1kW load, for example, the power factor before compensation is 0.3, the power factor after compensation is 0.7, and the compensation capacity for reactive power of 1kW is 2.16kVar.