APT

ALH-0.66 Series
Current Transformer

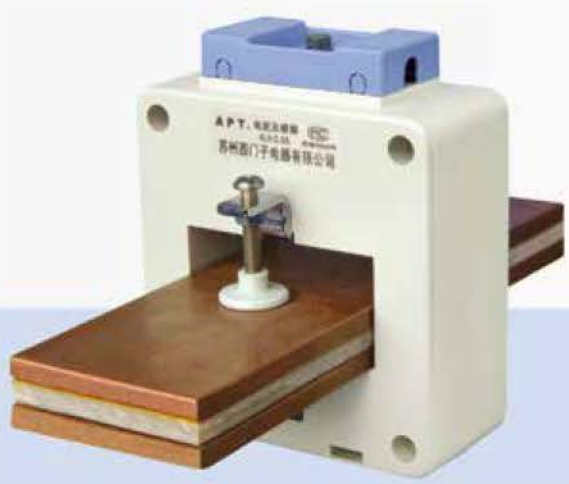
APT

Introduction

APT, established in 1993, has been specialized in the manufacturing of low voltage products such as pushbuttons and indicator and is one of the leading low voltage control device manufacturers in China. Through years of promotion and application, APT Series products have been widely serving dozens of industrial fields in China, including power, machinery, steel, metallurgy, petrochemical, transportation, water treatment, food, packaging, textile, harbor and construction etc. They have been successively chosen and used by the national key projects such as Qinshan Nuclear Power Plant, the Three Gorges Project, the Qinghai-Tibet Railway locomotives, Shenzhou V Spacecraft, Shanghai Pudong International Airport, National Stadium ("Bird's Nest") .....

In August, 2008, according to the asset purchase agreement between Shanghai APT Co., Ltd. (hereinafter referred to as "APT") and Siemens Electrical Apparatus Ltd. Suzhou (hereinafter referred to as "Siemens"), both parties have completed the business transaction. APT brand and related products will be under the operation of "Siemens" Group. As a new member of Siemens Group, APT will succeed and promote the business operation philosophy of the former "APT", i.e. customer orientation. With the quality management and R&D resources of Siemens, APT will focus on the manufacture of pushbuttons, indicator components and other important low voltage products such as the signal lighting, cam switch, relay, current transformer and limit switch etc. Furthermore, Siemens will develop its international business operation experience to strengthen the management and business development of APT and better serve Chinese and global market demands through its advanced technology.

We will do better!



ALH-0.66 Series
Current Transformer

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ALH-0.66 Series Current Transformer

Product Features

The material of ALH-0.66 I current transformer housing is high-strength PC plastic in fully enclosed structure. It is compatible for square and round holes for cable or bus. It shall be normally used for control, protection and measurement.
P1 and P2 refer to the primary polarity end; S1 and S2 refer to the secondary polarity end. P1, S1 and P2, S2 are dotted terminals (subtractive polarity).

Model

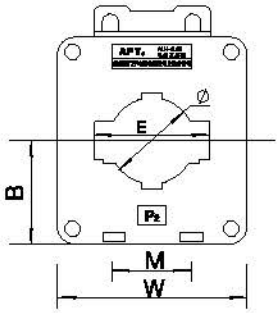
ALH-0.66 □ □ □ □ □

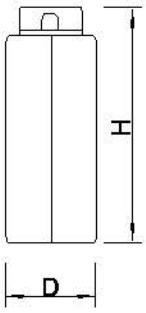
- Cable through number
- Capacity
- Accuracy class
- Current ratio
- Type (see the table below)
- Rated voltage 660V (equivalent to 690V)
- Registration approval model

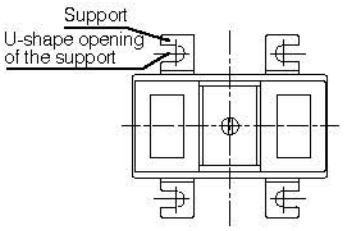
Specifications and dimensions

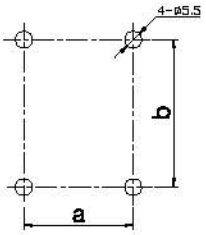
Unit:mm

Dimensions / Specifications and models	External size				Perforation size		Installation size	Installation methods (page 9) Note: "/" refers to the installation method not available						
								A		B		C	D	E
	W	H	D	B	E	Ø	M	a	b	a	b	/	/	/
30I	59	78	30	33	30.5	23	31	32.4	50	32.4	44	/		/
30I-I	59	80	45	33.5	30.5	23	31	32.4	58.6	32.4	58.6	/		/
40I	75	97	44	41	42	30.5	45	45	59	44	59		/	/
60I	102	126	46	55	61.5	45	62	/	/	63.3	59		/	/
80I	118	138	45	61	81.5	52	60	/	/	61	59		/	
100I	147	162	45	73	101.5	62	80	/	/	84	59		/	









Technical Data

1 Primary current 5-3000A secondary current 5A,1A
2 Rated voltage AC 660V
3 Rated frequency 50-60Hz
4 Ambient temperature -30 ℃ - +70 ℃ Maximum temperature resistance 120℃
5 Altitude ≤3000m
6 Power frequency withstand voltage 3000V 1min 50Hz (between the housing and the secondary coil)
7 Insulation class E

Technical Data Table

Specifications and models		30I		30I-I		40I		60I		80I		100I	
Available busbar specifications and quantity		30×10 1		30×10 1		40×10 1		60×10 1 60×6 2		80×10 1 60× 6 1		100×10 1 80×10 2	
Accuracy class		0.5	1	0.5	1	0.5	1	0.2	0.5	0.2	0.5	0.2	0.5
Rated current ratio	Cable through num.	Rated capacity (VA)											
15/5	5		2.5		2.5		2.5						
20/5	4		2.5		2.5		2.5						
25/5	3		2.5		2.5		2.5						
30/5	3		2.5		2.5		2.5						
40/5	2		2.5		2.5		2.5						
50/5	2		2.5		2.5		2.5						
60/5	2		2.5		2.5		2.5						
75/5	1		2.5		2.5		2.5						
100/5	1		2.5	2.5	5		2.5						
150/5	1	2.5		2.5	5	2.5			2.5				
200/5	1	5		5	10	5			5				
250/5	1	5		5	10	5			5		5		
300/5	1	5		5	10	5			5		5		
400/5	1	5		5	10	5			5		5		
500/5	1					10			10		10		
600/5	1					10			10		10		10
750/5	1					10			10		10		10
800/5	1					10			10		10		10
1000/5	1							15		15		15	
1200/5	1							20		20		20	
1500/5	1							20		20		20	
2000/5	1							40		40		40	
2500/5	1									40		40	
3000/5	1											40	
5/1	3				0.1								
10/1	2				0.1								
15/1	1				0.1								
20/1	1				0.1								
25/1	1				0.1								
30/1	1		0.1	0.1	0.2	0.1							
40/1	1		0.1	0.1	0.4	0.1							
50/1	1	0.2		0.2	0.4	0.2							
60/1	1	0.2		0.2	1	0.2							
75/1	1	0.2		0.2	1	0.2			0.2				
100/1	1	0.2		0.2	2.5	0.2			0.2		0.2		0.2
150/1	1	2.5		2.5	5	2.5			2.5		2.5		1
200/1	1	5		5	10	5			5		5		5
250/1	1	5		5	10	5			5		5		5
300/1	1	5		5	10	5			5		5		5
400/1	1					10			10		10		10
500/1	1					10			10		10		10
600/1	1					10			10		10		10
750/1	1					10			10		10		10
800/1	1					10			10		10		10
1000/1	1					10			10		10		10
1500/1	1							20		20		20	
2000/1	1							20		20		20	
2500/1	1											20	
3000/1	1											20	

Note: The blanks without capacity can be realized by core-through or model not available.

ALH-0.66 Series Current Transformer

Product Features

The material of ALH-0.66 II type current transformer housing is made of high-strength PC in fully enclosed structure. It has rectangle perforation with one coil of core-through and mainly used for bus (also available for cable). It can penetrate 6 buses in maximum. It is normally used for control, protection and measurement. P1 and P2 refer to the primary polarity end; S1 and S2 refer to the secondary polarity end. P1, S1 and P2, S2 are dotted terminals (subtractive polarity).

Model

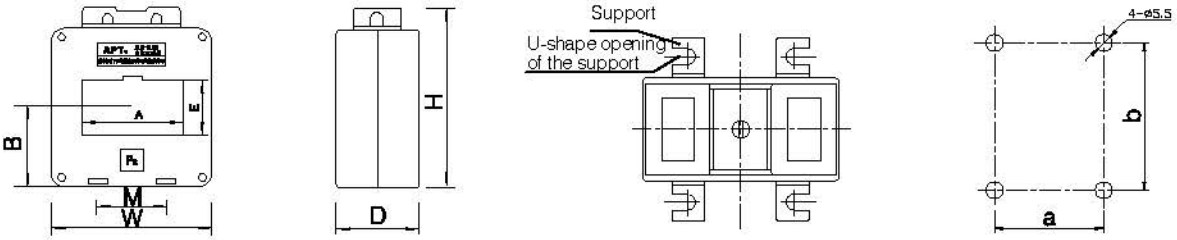
ALH-0.66 □ □ □ □

- Capacity
- Accuracy class
- Current ratio
- Specification (see the table below)
- Rated voltage class 660V (equivalent to 690V)
- Registration approval model

Product Features

Unit:mm

Dimensions / Specifications and models	External size				Perforation size		Installation size	Installation methods (page 9) Note: "/" refers to the installation method not available				
	W	H	D	B	A	E	M	B		C	D	E
								a	b	/	/	/
30II	60.5	101.5	44	43	34	26	30	30	58	/		/
40II	75	105	45	45	42	32	45	45	58	/		/
50II	87	105	45	49	52	32	30	31	59	/		/
60II	98	116	45	50	62	32	42	/	/		/	
80II	118	120	45	53	82	32	60	/	/		/	
100II	140	130	49	57	102	32	80	/	/		/	
130II	176	133	46	59	136	36	33 40 33	/	/		/	
180II	225	133	48	59	182	37	45 45 45	/	/		/	
200II	244	133	50	59	204	35	50 50 50	/	/		/	
60 × 50II	100	141	46	63	62	52	42	/	/		/	
80 × 50II	120	141	46	63	82	52	60	/	/		/	
100 × 50II	142	150	49	67	102	53	80	/	/		/	
120 × 50II	167	151	49	69	122	53	80	/	/		/	
220 × 50II	280	190	60	87	225	55	65 55 65	/	/		/	
170 × 100II	257	220	60	102	172	105	45 75 40	/	/		/	



Technical Data

1 Primary current 50-10000A secondary current 5A,1A
2 Rated voltage AC 660V
3 Rated frequency 50-60Hz
4 Ambient temperature -30℃ - +70℃ Maximum temperature resistance 120℃
5 Altitude ≤3000m
6 Power frequency withstand voltage 3000V 1min 50Hz (between the housing and the secondary coil)
7 Insulation class E

Technical Data Table

Specifications and models	30II		40II		50II		60II		60×50 II		80II		80×50 II		100II		100×50 II		120×50 II		130II		180II		200II		220×50 II		170×100 II	
Available busbar specifications and quantity	30×10 1-2		40×10 1-2		50×10 1-2		60×10 1-2		60×10 2-3		80×10 1-2		80×10 2-3		100×10 2		100×10 2-3		120×10 1-3		130×10 1-2		180×10 1-2		200×10 1-2					
Accuracy class	0.5	1	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5
Rated current ratio	Rated capacity (VA)																													
75/5																														
100/5		2.5		2.5																										
150/5	2.5			2.5		2.5		2.5				2.5																		
200/5	5			5		5		5				2.5				2.5														
250/5	5			5		5		5				5				2.5														
300/5	5			5		5		5		5		5				2.5														
400/5	5			5		5		5		5		5		5		5														
500/5	10			10		10		10		10		10		10		10														
600/5	10			10		10		10		10		10		10		10		10												
750/5	10			10		10		10		10		10		10		10		10												
800/5				10		10		10		10		10		10		10		10												
1000/5			15		15		15		15		15		15		15		15		15		15									
1200/5			20		20		20		20		20		20		20		20		20		20									
1500/5			20		20		20		20		20		20		20		20		20		20		20		20		20		20	
2000/5					20		40		40		40		40		40		40		40		40		40		40		40		40	
2500/5							40		40		40		40		40		40		40		40		40		40		40		40	
3000/5											40		40		40		40		40		40		40		40		40		40	
4000/5													40		40		40		40		40		40		40		40		40	
5000/5																			40		40		40		40		40		40	
40/1				0.1																										
50/1	0.2			0.2																										
60/1	0.2			0.2		0.2																								
75/1	0.2			0.2		0.2		0.2																						
100/1	0.2			0.2		0.2		0.2				0.2																		
150/1	2.5			2.5		2.5		2.5				1				1														
200/1	5			5		5		2.5				2.5				2.5														
250/1	5			5		5		5				2.5				2.5				1										
300/1	5			5		5		5		5		5		5		5				2.5										
400/1	10			10		10		10		10		10		10		10		10		5										
500/1	10			10		10		10		10		10		10		10		10		10										
600/1	10			10		10		10		10		10		10		10		10		10										
750/1	10			10		10		10		10		10		10		10		10		10										
800/1				10		10		10		10		10		10		10		10		10										
1000/1				10		10		10		10		10		10		10		10		10										
1200/1						10	20		20		20		20		20		20		20		20									
1500/1							20		20		20		20		20		20		20		20		20		20		20		20	
2000/1											20		20		20		20		20		20		20		20		20		20	
2500/1															20		20		20		20		20		20		20		20	
3000/1															20		20		20		20		20		20		20		20	
4000/1																			20		20		20		20		20		20	
5000/1																									20		20		20	

Note: The blanks without capacity can be realized by core-through or model not available.

ALH-0.66 Series Current Transformer

Product Features

ALH-0.66 III type current transformer is the improved product on the basis of I and II type. It is mainly used for vertical arrangement of three-phase bus, so as to avoid the inconvenience of secondary outlet obstructed by the adjacent bus or the transformer. It is installed mainly by fixing the bus, which is very convenient. Meanwhile, it enlarges the capacity of the transformer and greatly improves its accuracy. Therefore, it meets the higher requirements of large load impedance and electricity measurement. P1 and P2 refer to the primary polarity end; S1 and S2 refer to the secondary polarity end. P1, S1 and P2, S2 are dotted terminals (subtractive polarity).

Model

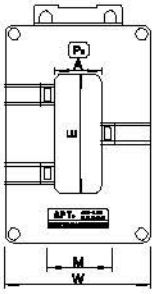
ALH-0.66 □ □ □ □

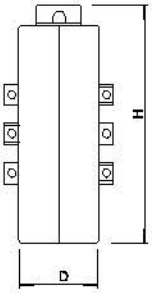
- Capacity
- Accuracy class
- Current ratio
- Specification (see the table below)
- Rated voltage class 660V(equivalent to 690V)
- Registration approval model

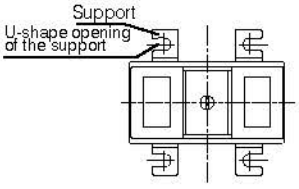
Specifications and dimensions

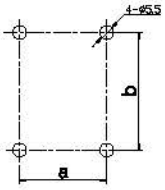
Unit:mm

Dimensions / Specifications and models	External size			Perforation size			Installation size	Installation methods (page 9) Note: "/" refers to the installation method not available		
								A		J
	W	H	D	A	E	Ø	M	a	b	
20III	72	76	36	11	21	21	40	41.8	50	
30III	73	98	50	12	32	26	40	41.8	63.6	
50III	75	120	56	16	52	/	/	/	/	
60III	100	145	55	32	62	/	/	/	/	
80III	100	164	55	32	82	/	/	/	/	
100III	100	196	55	32	102	/	/	/	/	
120III	125	221	55	52	122	/	/	/	/	
130III	125	221	55	56	132	/	/	/	/	









Technical Data

1 Primary current 75-5000A secondary current 5A, 1A
2 Rated voltage AC 660V
3 Rated frequency 50-60Hz
4 Ambient temperature -30℃ -+70℃ Maximum temperature resistance 120℃
5 Altitude ≤3000m
6 Power frequency withstand voltage 3000V 1min 50Hz (between the enclosure and the secondary coil)
7 Insulation class E

Technical Data Table

Specifications and models	20Ⅲ		30Ⅲ		50Ⅲ		60Ⅲ		80Ⅲ		100Ⅲ		120Ⅲ		130Ⅲ	
Available busbar specifications and quantity	20×10 1		30×10 1		50×10 1		60×10 1-2		80×10 1-2		100×10 1-2		120×10 1-3		130×10 1-3	
Accuracy class	0.5	1	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5
Rated current ratio	Rated capacity (VA)															
75/5		2.5														
100/5		2.5		2.5												
150/5	2.5		2.5	2.5												
200/5	5		2.5	5												
250/5			2.5	5												
300/5			5	10												
400/5			10	10	10	10	10	10								
500/5			10	10	10	10	10	10								
600/5			10	10	10	10	10	10	10	10						
750/5					10	10	10	10	10	10						
800/5					10	10	10	10	10	10	10	10	10	10		
1000/5					15	15	15	15	15		15		15			
1200/5							20	20	20		20		20		20	
1500/5							20	20	20		20		20		20	
2000/5							40	40	40		40		40		40	
2500/5								40	40		40		40		40	
3000/5									40		40		40		40	
4000/5											40		40		40	
5000/5											40		40		40	
100/1	0.2			0.2												
150/1	2.5			2.5		2.5										
200/1	5			5		5										
250/1				5		5		5								
300/1				5		5		5								
400/1				10		10		10		10		10		5		
500/1				10		10		10		10		10		10		
600/1				10		10		10		10		10		10		
750/1						10		10		10		10		10		
800/1						10		10		10		10		10		
1000/1						10		10		10		10		10		
1200/1						15	20		20		20		20		20	
1500/1						20	20		20		20		20		20	
2000/1							20		20		20		20		20	
2500/1									20		20		20		20	
3000/1											20		20		20	
4000/1											20		20		20	
5000/1											20		20		20	

Note: The blanks without capacity can be realized by core-through or model not available.

ALH-0.66 Series Current Transformer

Product Features

ALH-0.66M type current transformer is applicable to small current and small space occasions, especially the drawer cabinet. It can be easily and directly installed with the guide rail (or the bottom rail provided by the manufacturer) or the bus. By adopting the screw-type primary wiring, it may not need to increase the number of coils on the primary side during small current.

Apart from the features of M type, ALH-0.66Mø type current transformer's primary side uses the direct core-through methods, without disconnecting the wire. The core-through hole diameters are ø8mm, ø12mm, ø15mm and ø22mm with one coil each (except for the customized specification not included in the sample).

M8-I

M8-II

∅8-I ∅15-I

∅8-II ∅15-II

∅12 ∅22

Model

ALH-0.66 □ □ □ □

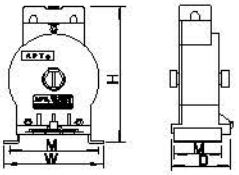
- Capacity
- Accuracy class
- Current ratio
- Specification (see the table below)
- Rated voltage class 660V (equivalent to 690V)
- Registration approval model

Specifications and dimensions

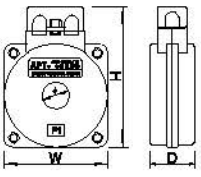
Unit:mm

Dimensions / Specifications and models	External size			Perforati on size	Installation size	Installation methods (page 9)
	W	H	D	∅	M	
M8-I	74	101	44	/	65 35	F.G.I
∅8-I	74	101	44	8	65 35	F.G
∅15-I	74	101	44	15	65 35	F.G
M8-II	67	86	24	/	70	H.I
∅12	67	86	24	12	70	H
∅22	67	86	24	22	70	H
∅8-II	59	82	26	8	70	/
∅15-II	59	82	26	15	70	/

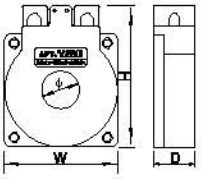
Note: "/" refers to the installation method not available.



M8-I ∅8-I ∅15-I



∅8-II ∅15-II



M8-II ∅12 ∅22

Technical Data

1 Primary current 5-800A secondary current 5A, 1A
2 Rated voltage AC 660V
3 Rated frequency 50-60Hz
4 Ambient temperature -30℃ -+70℃ Maximum temperature resistance 120℃
5 Altitude ≤3000m
6 Power frequency withstand voltage 3000V 1min 50Hz (between the enclosure and the secondary coil)
7 Insulation class E

Technical Data Table

Specifications and models	M8-I		M8-II		∅8-I	∅8-II	∅12		∅15-I	∅15-II	∅22	
Accuracy class	0.5	1	0.5	1	1	1	0.5	1	1	1	0.5	1
Rated current ratio	Rated capacity（VA）											
5/5		2.5		2.5								
10/5		2.5		2.5								
15/5		2.5		2.5								
20/5		2.5		2.5								
25/5		2.5		2.5								
30/5		2.5		2.5								
40/5		2.5		2.5								
50/5		2.5		2.5								
60/5		2.5		2.5								
75/5		2.5		2.5	2.5	2.5		2.5	2.5	2.5		2.5
100/5		2.5		2.5	2.5	2.5		2.5	2.5	2.5		2.5
150/5	2.5		2.5		2.5	2.5	2.5	2.5	2.5	2.5		2.5
200/5					5	5	2.5	5	5	5		5
250/5					5	5	2.5	5	5	5		5
300/5					5	5	2.5	5	5			5
400/5							2.5	5	5			5
500/5							5		10			10
600/5									10			10
750/5												10
800/5												10
5/1	0.4		0.4									
10/1	0.4		0.4									
15/1	0.4		0.4									
20/1	0.4		0.4		0.1	0.1		0.1	0.1	0.1		0.1
25/1	0.4		0.4		0.1	0.1		0.1	0.1	0.1		0.1
30/1	0.4		0.4		0.1	0.1	0.1		0.1	0.1	0.1	
40/1	0.4		0.4		0.1	0.1	0.1		0.1	0.1	0.1	
50/1	0.4		0.4		0.2	0.2	0.2		0.2	0.2	0.2	
60/1	0.4		0.4		0.2	0.2	0.2		0.2	0.2	0.2	
75/1	0.4		0.4		0.2	0.2	0.2		0.2	0.2	0.2	
100/1	0.4		0.4		0.2	0.2	0.2		0.2	0.2	0.2	
150/1					2.5	2.5	2.5		2.5	2.5	2.5	
200/1					5	5	5		5	5	5	
250/1							5		5		5	
300/1							5		5		5	
400/1							10		10		10	
500/1												
600/1												

Note: The blanks without capacity can be realized by core-through or model not available.

Installation

Fig. A Bent sheet short bar fixation

Fig. B Straight sheet long bar fixation

Fig. C Single sheet platen fixation (straight sheet)

Fig. D Single sheet platen fixation (bent sheet)

Fig. E Double sheet platen fixation

Fig. F Guide rail fixation

Fig. G Matched bottom rail fixation

Fig. H Dead plate fixation

Fig. I Bus fixation

Fig. J Busbar fixation

Installation Caution

1. The secondary winding of current transformer cannot be open circuit, otherwise, the high voltage may endanger the equipment and personal safety.
2. One end of the secondary side of current transformer shall be reliable grounding to avoid insulation breakdown between the primary and the secondary.
3. The current transformer shall be used strictly based on the rated power, the rated transformation ratio and the accuracy class on the nameplate.
4. The primary winding of current transformer and the tested circuit shall be in series, the secondary winding and the electrical measuring instrument shall be in series, and the polarity of current transformer shall be noted during wiring.
5. The connecting lead for secondary loop shall adopt the insulated wire with small resistance, without any connectors in the center.
6. The impedance of instrument connected in series with the secondary winding loop shall not exceed that specified in the technical standards.
7. The same current transformer shall not be used for relay protection and electricity measurement.

Order instruction

1. The current transformer's model, specification, current ratio, accuracy class and the secondary rated capacity shall be specified;
2. Specify the installation methods. (If not specified, the company can provide as per its regulations.)
3. It can be customized for special specifications.

Application project sample

National large public buildings

Shanghai New International Expo Center
Shanghai maglev train line
China Millennium Monument in Beijing
Oriental Pearl TV Station
Shanghai Stadium
Sichuan 703 TV Tower

School, hospital and office building

Shanghai Maritime University
Shanghai International Studies University
National Radio and Television Building
New Office Building for the Ministry of Foreign Affairs
Shanghai Ruijin Hospital
Shanghai Sixth People's Hospital

Power plant, power station and electric utility

Huaneng Yuhuan Power Plant (4×1000MW)
Shazhou Power Plant (2×600MW)
Guodian Changzhou Power Plant (2×600MW)
Fujian Ningde Power Plant (2×600MW)
Jiangsu Tianwan Nuclear Power Station
Daya Bay Nuclear Power Plant
Sichuan Ertan Power Plant

Airport, port and metro

Capital International Airport
Shenyang Taoxian International Airport
Shanghai Pudong International Airport
Ningbo Bukchang port
Nanjing Metro Lines 1 and 2
Shanghai Pearl Line (light rail) Phases 1 and 2
Shenzhen Metro Line 1

Petroleum, metallurgy and chemistry

Shanghai Baoshan Iron and Steel Plant
Shanghai Jinshan Petrochemical
Wuhan Iron and Steel Plant
Relocation Project of Shougang Group
Reconstruction Project of Sichuan Dagang

Others

Xinjiang Shihezi Project
Shandong Heavy Machinery Plant
Shanghai Zhenhua Port Machinery Co., Ltd.
Workshop for Shanghai Lili Industrial
Workshop for Guangzhou Perlos/Liteonmobile

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