



Instructions Manual

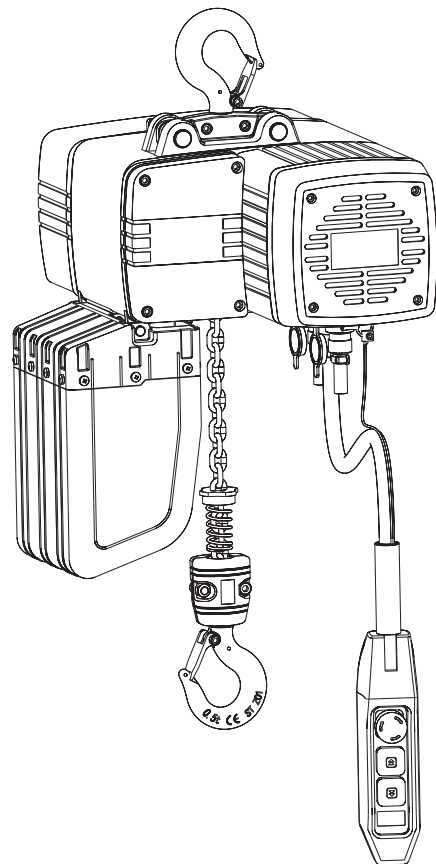
TC Electrical Chain Hoist (250kg to 2t)

Hook Suspension TC Model

Bracket Suspension TCS Model

With Electric Trolley TCD Model

With Plain Trolley TCP Model



- Thanks for choosing TBM electrical chain hoist
- These instruction manual must be read carefully before installing and putting the chain hoist into operation.
- We assume no liability for any damage and malfunctions resulting from failure to comply with the operating instructions.
- These instruction manual are protected within the sense of copyright law. No part of this documentation, in whole or in part, may be reproduced, distributed, shown in public or used in any other way without specific prior consent.

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Disclaimer:

- TBM will not be liable for any damage or loss caused by natural disaster, other accidents or operating errors in appropriate use.
- TBM will not be liable for any damage and loss resulting from non-compliance with instruction manual.
- TBM will not be liable to supply spare parts for the products for which it has passed for 10 years since the discontinuation of the product.
- TBM shall not be liable for any damage or loss caused by the combination of the product with other equipment in which TBM is not concerned.

Safety Instruction

Safety Symbols Description



Forbidden

Things forbidden to do.

Forbidden things indicated by words or images near the the symble.



Mandatory

Things must be done.

Obliged things indicated by words or images near the the symble.

The instruction manual must be read carefully before installing and putting the chain hoist into operation. We assume no liability for any damage and malfunctions resulting from failure to comply with the instruction manual. Operator entrusted with this work must know and comply with the safety regulations and the instruction manual. These symbols and instructions are used to warn against potential safety hazards or causes of damage or provide useful information.

Signal Words Description



Danger

Any failure to comply with these instructions will result in danger to life and limb or great loss.



Warning

Potential hazard, any failure to comply with these instructions may result in danger to life and limb or great loss.




Caution

Potential hazard, any failure to comply with these instructions may result in slight danger to life and limb or some loss.

It indicates all warnings which it is, if not complied with, may result in danger to life and limb. The Instruction manual must be available to the operator at all times.

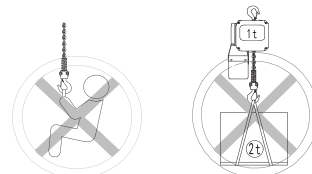
▼ Improper use

 Danger





Forbidden




- Do not transport persons.
- Do not use it as a load bearing sling.
- Do not handle melting metal, poisonous, flammable or explosive objects.
- Do not use in conflagration, explosive danger or corrosive gases.




▼ Safety instructions for operation and maintenance

⚠ Danger	
 Forbidden	<ul style="list-style-type: none">• Do not disassembly and maintenance work in hazardous environments.• Do not transport persons• Do not modify the products and spare parts.• Do not use the hoist as a load bearing sling.
⚠ Caution	
 Mandatory	<ul style="list-style-type: none">• Operator must inspect the products on daily basis.• Maintenance work must be carried out by qualified specialist pesonnel on monthly and annual basis.• Keep inspection records.

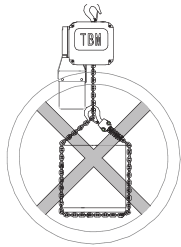
▼ Safety instructions before operation

⚠ Warning	
 Mandatory	<ul style="list-style-type: none">• The bottom block must not be twisted or cracked.• The load chain installed within the hoist is unfixable.• The load chain bucket must be fixed on hoist.
⚠ Caution	
 Forbidden	<ul style="list-style-type: none">• Do not start operation if the load chain is twisted or knotted.• Do not weld or modify on any parts of load chain.• Do not use screw bolt, screw driver or other tools to twist or cut short the chain.
 Mandatory	<ul style="list-style-type: none">• All the safety instructions must be thouroughly understood by operator• Electrode holder of hoist must be connected to the earth before operated• Avoid any deformation or looseness from the pin roll of top hook and bottom hook.• Test the limit switch.

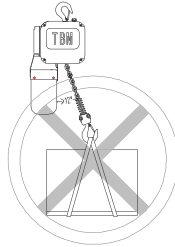
▼ Safety instructions in operation

⚠ Caution	
 Mandatory	<ul style="list-style-type: none">• Ensure the load is placed in the hook cavity.• Ensure the saety latch is locked• Ensure the load chain is lubrication.• Ensure the load chain is undeformed and uncracked.

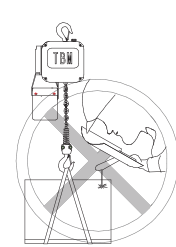
Warning



- Do not use the load chain as bearing sling.



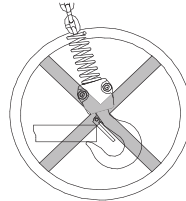
- Do not pull suspended loads at an angle over 12 degrees.



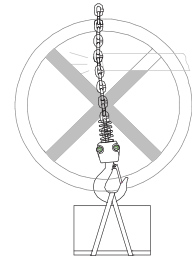
- Do not execute welding or cutting on the suspending load.



- Do not transport person



- Do not suspend the load on the pointed end of the hook.



- Do not let the load chain touch the surface of the obstacles such as steel plate.



Forbidden

- Do not use damaged or noisy hoist.
- Do not swing the load.
- Do not repeat frequent speedy up and down operation.
- Do not let the load suspended under no supervision.

▼ Safety instructions after operation



Warning

- Shut off the power of control pendant in case of misoperation.



Caution

- Ensure the safe descent of the load against falling down.

▼ Other Safety instructions

Warning



Forbidden

- Do not use damage hoists or those under maintenance.
- Do not elongate or weld the load chain, for it's made from special alloy steel and not allowed to be modified or welded

Caution



Mandatory

- Confirm with TBM in case of use in particular environment such as salt water, sea water, acidic or alkaline materials or explosive conditions.
- Ensure regular inspection and maintenance are performed by qualified personnel according to this operating instructions, otherwise you should contact with manufacturer for professional supporting.

Contents

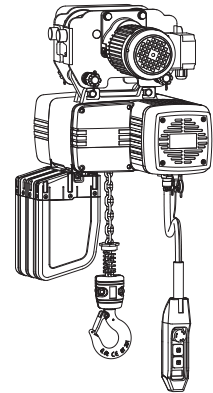
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1.1 Basic information

▼ Product outline

Capacity:	250kg - 2T
Voltage:	220V-415V 50/60Hz 3ph 110V-220V 50/60Hz 3ph
Control Voltage:	24V/48V/110V
Classification:	M5(ISO);2m(FEM)
Protection Level	Hoist - IP55;Control Pendant:IP65
Motor Insulation:	F
Connection Type:	Hook Suspension; Bracket Suspension Electric Trolley; Plain Trolley
Operation Temperature:	-20°C - +40°C
Operating Humidity:	≤85%



⚠ Warning



Forbidden

- Do not use in conflagration, explosive danger or corrosive gases.
- Do not handle melting metal, poisonous, flammable or explosive objects.
- Do not use in acid, salty or dusty environment.

⚠ Caution

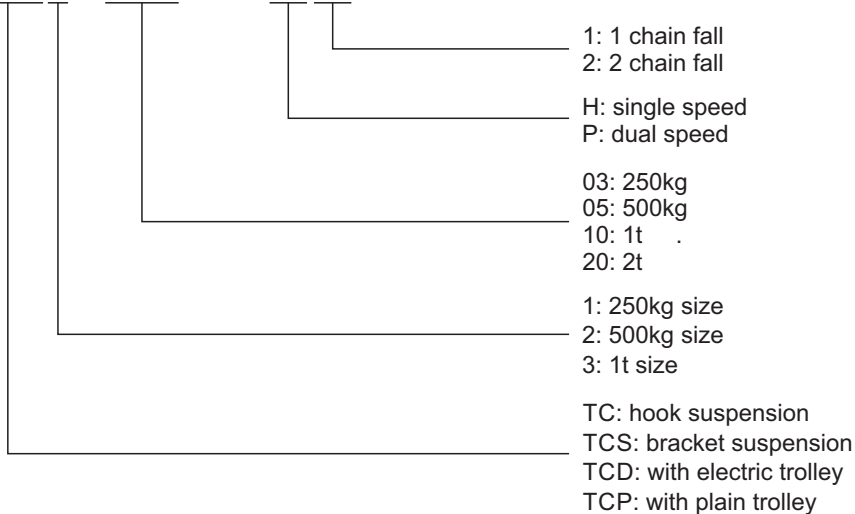


Mandatory

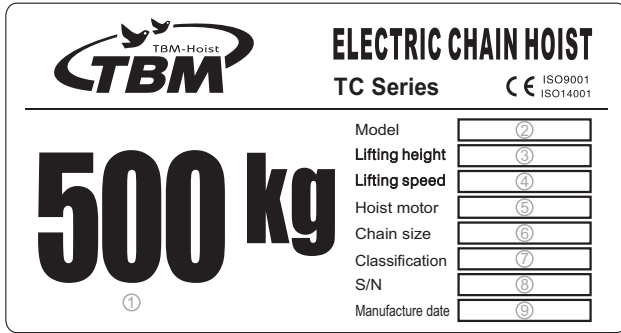
- Product operating outdoors should be provided with a cover for protection against rain and snow or kept under shelter.
- Ensure the load chain is DT/DAT grade with G80 tensile strength.

▼ Product code

TC1 - 05 M5 H 1



▼ Nameplate indication - TC Electric chain hoist



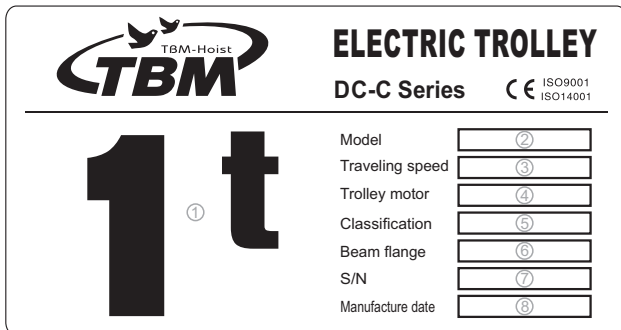
- ① Rated load: 500kg
- ② Model: TC2-05M5P1
- ③ Lifting height: 3m
- ④ Lifting speed: 8/2m/min
- ⑤ Hoist motor:0.72/0.18kW
- ⑥ Chain size: 5 x 15mm
- ⑦ Classification: M5
- ⑧ S/N: 2100003
- ⑨ Manufacture date: 21.03

▼ Nameplate information

Model	Rated load (t)	Classification	Lifting speed	Hoist motor	Chain Size
TC1-03M5H1	250kg	M5(2m)	8.0m/min	0.4kW	4 x 12mm
TC1-03M5P1			8.0/2.0m/min	0.4/0.1kW	
TC1-05M5H2	500kg	M5(2m)	4.0m/min	0.4kW	4 x 12mm
TC1-05M5P2			4.0/1.0m/min	0.4/0.1kW	
TC2-05M5H1	500kg	M5(2m)	8.0m/min	0.72kW	5 x 15mm
TC2-05M5P1			8.0/2.0m/min	0.72/0.18kW	
TC2-10M5H2	1	M5(2m)	4.0m/min	0.72kW	5 x 15mm
TC2-10M5P2			4.0/1.0m/min	0.72/0.18kW	
TC3-10M5H1	1	M5(2m)	8.0m/min	1.6kW	7.1 x 21mm
TC3-10M5P1			8.0/2.0m/min	1.6/0.4kW	
TC3-20M5H2	2	M5(2m)	4.0m/min	1.6kW	7.1 x 21mm
TC3-20M5P2			4.0/1.0m/min	1.6/0.4kW	

- If operator select electric chain hoist with electric trolley, then model change to TCD.
- If operator select electric chain hoist with plain trolley, then model change to TCP.

▼ Nameplate indication-DC-C Electric trolley

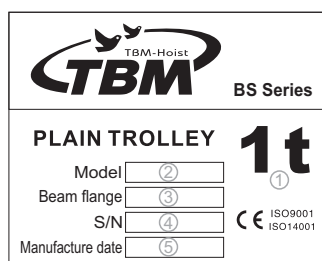


- ① Rated load: 1t
- ② Model: DC-C-10M5P
- ③ Traveling speed: 20/6.7m/min
- ④ Trolley motor:0.2/0.07kW
- ⑤ Classification: M5
- ⑥ Beam flange:
- ⑦ S/N: 2100003
- ⑧ Manufacture date: 21.03

▼ Nameplate information

Model	Rated load (t)	Classification	Traveling speed	Trolley motor
DC-C-10M5H	1	M5(2m)	13.5m/min	0.2kW
DC-C-10M5P			20.0/6.7m/min	0.2/0.07kW
DC-C-20M5H	2	M5(2m)	13.5m/min	0.4kW
DC-C-20M5P			20.0/6.7m/min	0.4/0.13kW

▼ Nameplate indication -BS Plain trolley

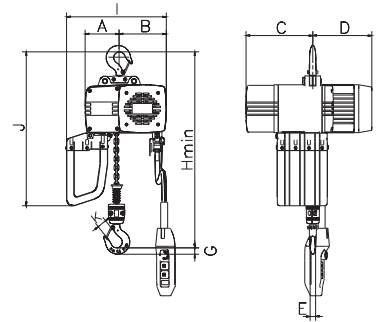


- ① Rated load: 1t
- ② Model: BS10;BS20
- ③ Beam flange:
- ④ S/N: 2100003
- ⑤ Manufacture date:21.03

1.2 Technical data

▼ Hook suspension TC model

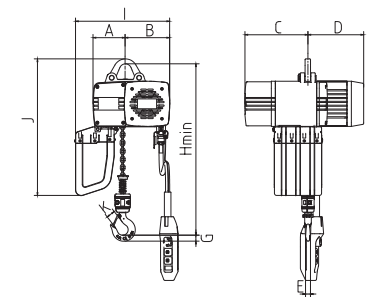
Model	Rated load (t)	Size	Classification	Lifting speed (m/min)	Hoist Motor (kW)	Chain Size	Chain Falls	Net Weight (kg)
TC1-03M5H1	250kg	1	M5(2m)	8	0.4	Ø 4x12mm	1	21
TC1-03M5P1				8/2	0.4/0.1			22
TC1-05M5H2	500kg	1	M5(2m)	4	0.4	Ø 4x12mm	2	25
TC1-05M5P2				4/1	0.4/0.1			26
TC2-05M5H1	500kg	2	M5(2m)	8	0.72	Ø 5x15mm	1	32
TC2-05M5P1				8/2	0.72/0.18			33
TC2-10M5H2	1	2	M5(2m)	4	0.72	Ø 5x15mm	2	35
TC2-10M5P2				4/1	0.72/0.18			36
TC3-10M5H1	1	3	M5(2m)	8	1.6	Ø 7.1x21mm	1	51
TC3-10M5P1				8/2	1.6/0.4			53
TC3-20M5H2	2	3	M5(2m)	4	1.6	Ø 7.1x21mm	2	56
TC3-20M5P2				4/1	1.6/0.4			58



Model	Rated load (t)	Hmin	A	B	C	D	E	G	I	J	K
TC1-03M5H1	250kg	420	114	123	211	228	18	20	293	444	23
TC1-03M5P1	250kg	420	114	123	211	228	18	20	293	444	23
TC1-05M5H2	500kg	490	128	109	211	228	18	22	293	447	27
TC1-05M5P2	500kg	490	128	109	211	228	18	22	293	447	27
TC2-05M5H1	500kg	465	118	162	231	204	18	22	343	530	27
TC2-05M5P1	500kg	465	118	162	231	204	18	22	343	530	27
TC2-10M5H2	1	579	134	146	231	204	20	25	343	543	31
TC2-10M5P2	1	579	134	146	231	204	20	25	343	543	31
TC3-10M5H1	1	575	128	187	264	245	20	25	405	574	31
TC3-10M5P1	1	575	128	187	264	245	20	25	405	574	31
TC3-20M5H2	2	690	150	165	264	245	26	42	405	596	38
TC3-20M5P2	2	690	150	165	264	245	26	42	405	596	38

▼ Bracket suspension TCS model

Model	Rated load (t)	Size	Classification	Lifting speed (m/min)	Hoist Motor (kW)	Chain Size	Chain Falls	Net Weight (kg)
TCS1-03M5H1	250kg	1	M5(2m)	8	0.4	Ø 4x12mm	1	21
TCS1-03M5P1				8/2	0.4/0.1			22
TCS1-05M5H2	500kg	1	M5(2m)	4	0.4	Ø 4x12mm	2	25
TCS1-05M5P2				4/1	0.4/0.1			26
TCS2-05M5H1	500kg	2	M5(2m)	8	0.72	Ø 5x15mm	1	32
TCS2-05M5P1				8/2	0.72/0.18			33
TCS2-10M5H2	1	2	M5(2m)	4	0.72	Ø 5x15mm	2	35
TCS2-10M5P2				4/1	0.72/0.18			36
TCS3-10M5H1	1	3	M5(2m)	8	1.6	Ø 7.1x21mm	1	51
TCS3-10M5P1				8/2	1.6/0.4			53
TCS3-20M5H2	2	3	M5(2m)	4	1.6	Ø 7.1x21mm	2	56
TCS3-20M5P2				4/1	1.6/0.4			58

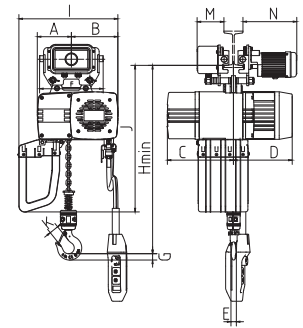


Model	Rated load (t)	Hmin	A	B	C	D	E	G	I	J	K
TCS1-03M5H1	250kg	370	114	123	211	228	18	20	293	409	23
TCS1-03M5P1	250kg	370	114	123	211	228	18	20	293	409	23
TCS1-05M5H2	500kg	435	128	109	211	228	18	22	293	409	27
TCS1-05M5P2	500kg	435	128	109	211	228	18	22	293	409	27
TCS2-05M5H1	500kg	415	118	162	231	204	18	22	343	498	27
TCS2-05M5P1	500kg	415	118	162	231	204	18	22	343	498	27
TCS2-10M5H2	1	515	134	146	231	204	20	25	343	498	31
TCS2-10M5P2	1	515	134	146	231	204	20	25	343	498	31
TCS3-10M5H1	1	515	128	187	264	245	20	25	405	535	31
TCS3-10M5P1	1	515	128	187	264	245	20	25	405	535	31
TCS3-20M5H2	2	606	150	165	264	245	26	42	405	535	38
TCS3-20M5P2	2	606	150	165	264	245	26	42	405	535	38

- above parameter is only for 380V~415V/50Hz/3ph motor standard.
- net weight includes 3m lifting height load chain.

▼ With electric trolley TCD model

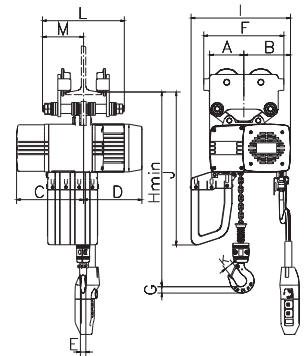
Model	Rated load (t)	Size	Classification	Lifting speed (m/min)	Hoist motor (Kw)	Traveling speed (m/min)	Trolley motor (kW)	Beam Flange(mm)		Chain size	Chain falls	Net Weight (kg)
								Standard	Optional			
TCD1-03M5H1	250kg	1	M5(2m)	8	0.4	13.5	0.2	74-140	140-200	Ø4x12mm	1	45
TCD1-03M5P1				8/2	0.4/0.1	20.0/6.7	0.2/0.07		200-310			47
TCD1-05M5H2	500kg	1	M5(2m)	4	0.4	13.5	0.2	74-140	140-200	Ø4x12mm	2	49
TCD1-05M5P2				4/1	0.4/0.1	20.0/6.7	0.2/0.07		200-310			51
TCD2-05M5H1	500kg	2	M5(2m)	8	0.72	13.5	0.2	74-140	140-200	Ø5x15mm	1	56
TCD2-05M5P1				8/2	0.72/0.18	20.0/6.7	0.2/0.07		200-310			58
TCD2-10M5H2	1	2	M5(2m)	4	0.72	13.5	0.2	74-140	140-200	Ø5x15mm	2	59
TCD2-10M5P2				4/1	0.72/0.18	20.0/6.7	0.2/0.07		200-310			61
TCD3-10M5H1	1	3	M5(2m)	8	1.6	13.5	0.2	74-140	140-200	Ø7.1x21mm	1	75
TCD3-10M5P1				8/2	1.6/0.4	20.0/6.7	0.2/0.07		200-310			77
TCD3-20M5H2	2	3	M5(2m)	4	1.6	13.5	0.4	74-140	140-200	Ø7.1x21mm	2	81
TCD3-20M5P2				4/1	1.6/0.4	20.0/6.7	0.4/0.13		200-310			83



Model	Rated load (t)	Hmin	A	B	C	D	E	F	G	I	J	K	M	N
TCD1-03M5H1	250kg	438	114	123	211	228	18	320	20	293	462	23	131	290
TCD1-03M5P1	250kg	438	114	123	211	228	18	320	20	293	462	23	131	336
TCD1-05M5H2	500kg	505	128	109	211	228	18	320	22	293	462	27	131	290
TCD1-05M5P2	500kg	505	128	109	211	228	18	320	22	293	462	27	131	336
TCD2-05M5H1	500kg	480	118	162	230	204	18	320	22	343	545	27	131	290
TCD2-05M5P1	500kg	480	118	162	230	204	18	320	22	343	545	27	131	336
TCD2-10M5H2	1	589	134	146	231	204	20	320	25	343	545	31	131	290
TCD2-10M5P2	1	589	134	146	231	204	20	320	25	343	545	31	131	336
TCD3-10M5H1	1	578	128	187	264	245	20	320	25	405	577	31	131	290
TCD3-10M5P1	1	578	128	187	264	245	20	320	25	405	577	31	131	336
TCD3-20M5H2	2	670	150	165	264	245	26	320	42	405	577	38	132	315
TCD3-20M5P2	2	670	150	165	264	245	26	320	42	405	577	38	132	338

▼ With manual trolley TCP model

Model	Rated load (t)	Size	Classification	Lifting speed (m/min)	Hoist motor (kW)	Beam Flange(mm)		Min.bend radius (mm)	Chain size	Chain falls	Net Weight (kg)
						Standard	Optional				
TCP1-03M5H1	250kg	1	M5(2m)	8	0.4	68-180	180-305	1000	Ø4x12mm	1	35
TCP1-03M5P1				8/2	0.4/0.1						36
TCP1-05M5H2	500kg	1	M5(2m)	4	0.4	68-180	180-305	1000	Ø4x12mm	2	39
TCP1-05M5P2				4/1	0.4/0.1						40
TCP2-05M5H1	500kg	2	M5(2m)	8	0.72	68-180	180-305	1000	Ø5x15mm	1	46
TCP2-05M5P1				8/2	0.72/0.18						47
TCP2-10M5H2	1	2	M5(2m)	4	0.72	68-180	180-305	1000	Ø5x15mm	2	49
TCP2-10M5P2				4/1	0.72/0.18						50
TCP3-10M5H1	1	3	M5(2m)	8	1.6	68-180	180-305	1000	Ø7.1x21mm	1	65
TCP3-10M5P1				8/2	1.6/0.4						67
TCP3-20M5H2	2	3	M5(2m)	4	1.6	72-180	180-305	1500	Ø7.1x21mm	2	76
TCP3-20M5P2				4/1	1.6/0.4						78

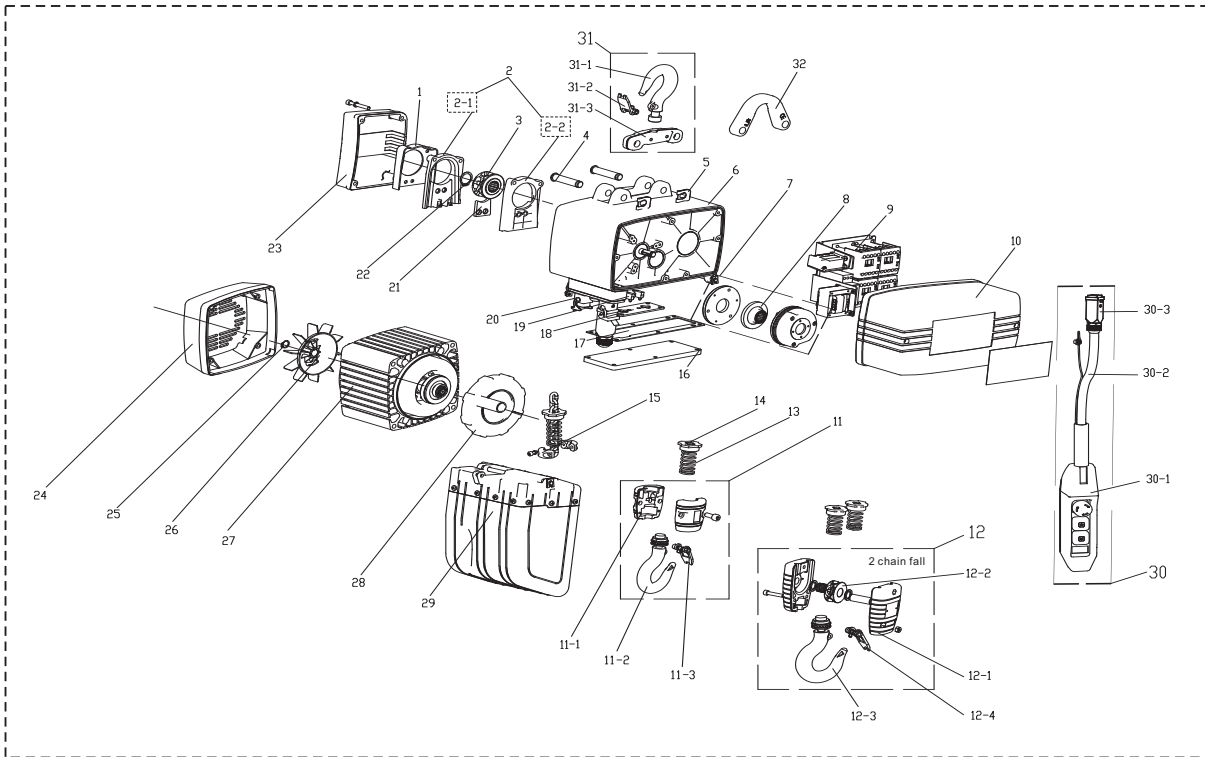


Model	Rated load (t)	Hmin	A	B	C	D	E	F	G	I	J	K	L	M
TCP1-03M5H1	250kg	420	114	123	211	228	18	238	20	293	444	23	278	139
TCP1-03M5P1	250kg	420	114	123	211	228	18	238	20	293	444	23	278	139
TCP1-05M5H2	500kg	528	128	109	211	228	18	238	22	293	444	27	278	139
TCP1-05M5P2	500kg	528	128	109	211	228	18	238	22	293	444	27	278	139
TCP2-05M5H1	500kg	463	118	162	230	204	18	238	22	343	528	27	278	139
TCP2-05M5P1	500kg	463	118	162	230	204	18	238	22	343	528	27	278	139
TCP2-10M5H2	1	585	134	146	231	204	20	273	25	343	528	31	283	141.5
TCP2-10M5P2	1	585	134	146	231	204	20	273	25	343	528	31	283	141.5
TCP3-10M5H1	1	559	128	187	264	245	20	273	25	405	558	31	283	141.5
TCP3-10M5P1	1	559	128	187	264	245	20	273	25	405	558	31	283	141.5
TCP3-20M5H2	2	652	150	165	264	245	26	303	42	405	558	38	295	147.5
TCP3-20M5P2	2	652	150	165	264	245	26	303	42	405	558	38	295	147.5

- above parameter is only for 380V~415V/50Hz/3ph motor standard.
- net weight includes 3m lifting height load chain.

1.3 Exploded view

▼ Hook suspension TC model ▼ Bracket suspension TCS model

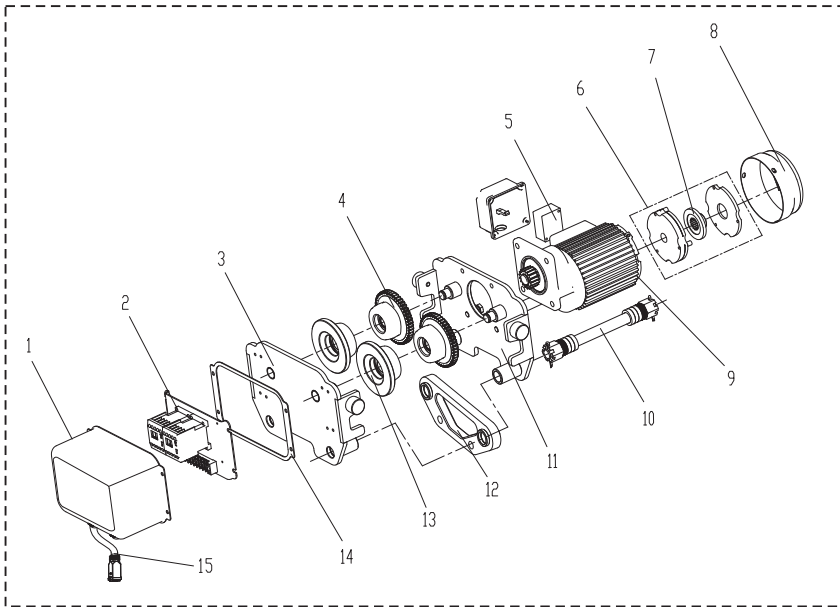


No	Part	Quantity		
		250kg / 1 chain fall 500kg / 2 chain fall	500kg / 1 chain fall 1t / 2 chain fall	1t / 1 chain fall 2t / 2 chain fall
1	chain guide cover protective sleeve	1	1	1
2	chain guide cover assembly	1set	1set	1set
2-1	A chain guide cover	1	1	1
2-2	B chain guide cover	1	1	1
3	load sprocket	1	1	1
4	lever pin	2	2	2
5	shaft circlip	2	2	2
6	gearbox body	1	1	1
7	brake assembly	1set	1set	1set
8	brake disc	1	1	1
9	electrical components	1set	1set	1set
10	electrical control cover	1	1	1
11	bottom hook assembly	1set	1set	1set
11-1	bottom hook housing assembly	1set	1set	1set
11-2	bottom hook	1	1	1
11-3	safety latch assembly	1set	1set	1set
12	hook assembly	1set	1set	1set
12-1	bottom hook housing assembly	1set	1set	1set
12-2	loose roller	1	1	1
12-3	bottom hook	1	1	1
12-4	safety latch assembly	1set	1set	1set
13	limit spring	1	1	1
14	limit abutment	1	1	1

15	chain limiting plate	2	2	2
16	gearbox cover	1	1	1
17	gasket	1	1	1
18	chain guide supporting plate	1	1	1
19	limit switch assembly	1set	1set	1set
20	socket	1	1	1
21	chain guide protective plate	1	1	1
22	A circlip for hole	1	1	1
23	load sprocket cover	1	1	1
24	fan cover	1	1	1
25	B circlip for hole	1	1	1
26	fan	1	1	1
27	motor assembly	1set	1set	1set
28	motor shield	1	1	1
29	load chain bucket assembly	1set	1set	1set
30	control pendant assembly	1set	1set	1set
30-1	control pendant	1	1	1
30-2	cable	3m	3m	3m
30-3	plug	1	1	1
31	top hook assembly	1set	1set	1set
31-1	top hook	1	1	1
31-2	safety latch assembly	1set	1set	1set
31-3	top hook housing	1	1	1
32	bracket suspension plate	1	1	1

- If operator need more details information about spare parts, please contact with supplier and manufacturer directly.
- As the electric components parts, please refer to 1.4 electric components configuration table.

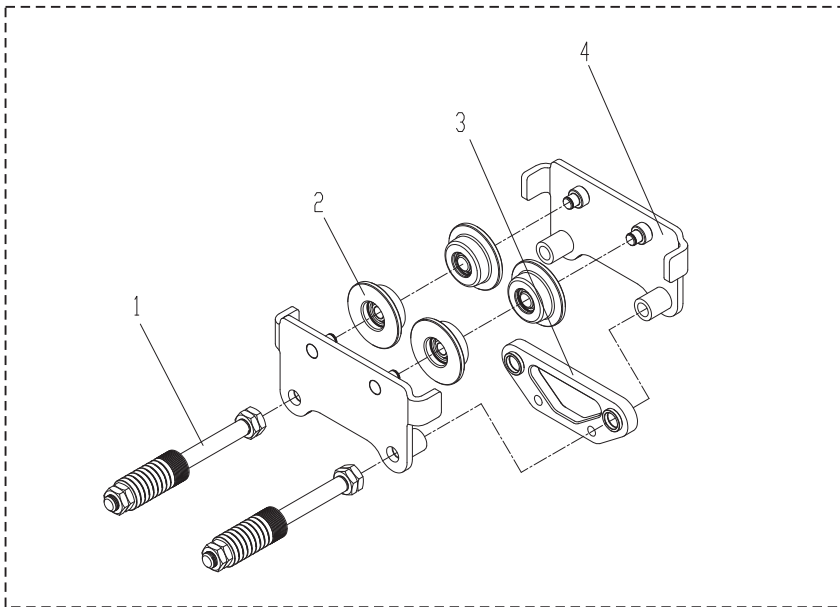
▼ Electric trolley DC-C model



No.	Part	Quantity unit:pc	
		1t	2t
1	electrical control cover	1	1
2	electrical components	1	1
3	driven wheel side plate	1	1
4	driving wheel assembly	4	4
5	rectifier	1	1
6	brake assembly	1	1
7	brake disc	1	1
8	brake cover	1	1
9	motor	1	1
10	suspension shaft assembly	1	1
11	driving wheel side plate	1	1
12	suspension plate	1	1
13	driven wheel assembly	4	4
14	gasket	1	1
15	plug	1	1

- If operator need more details information about spare parts, please contact with supplier and manufacturer directly.
- As the electric components parts, please refer to 1.4 electric components configuration table.

▼ Plain trolley BS model

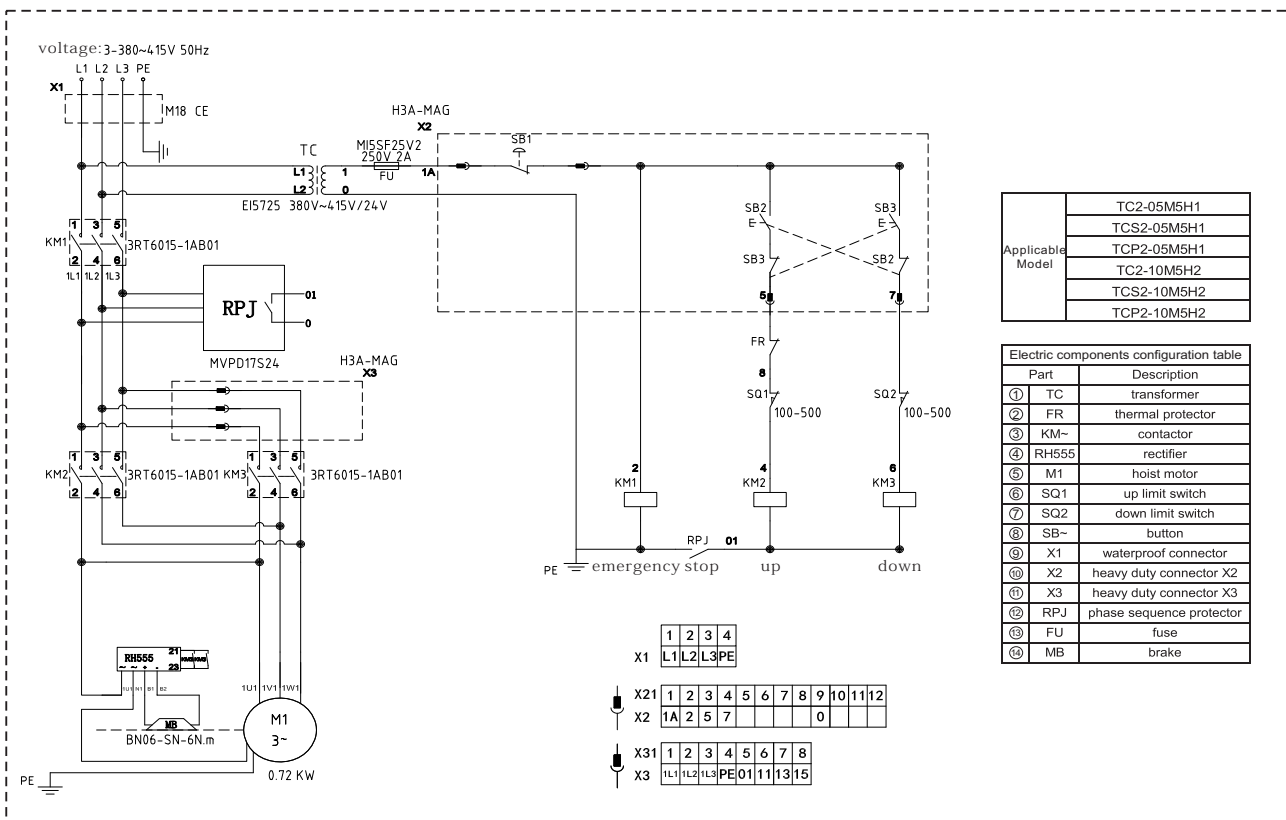
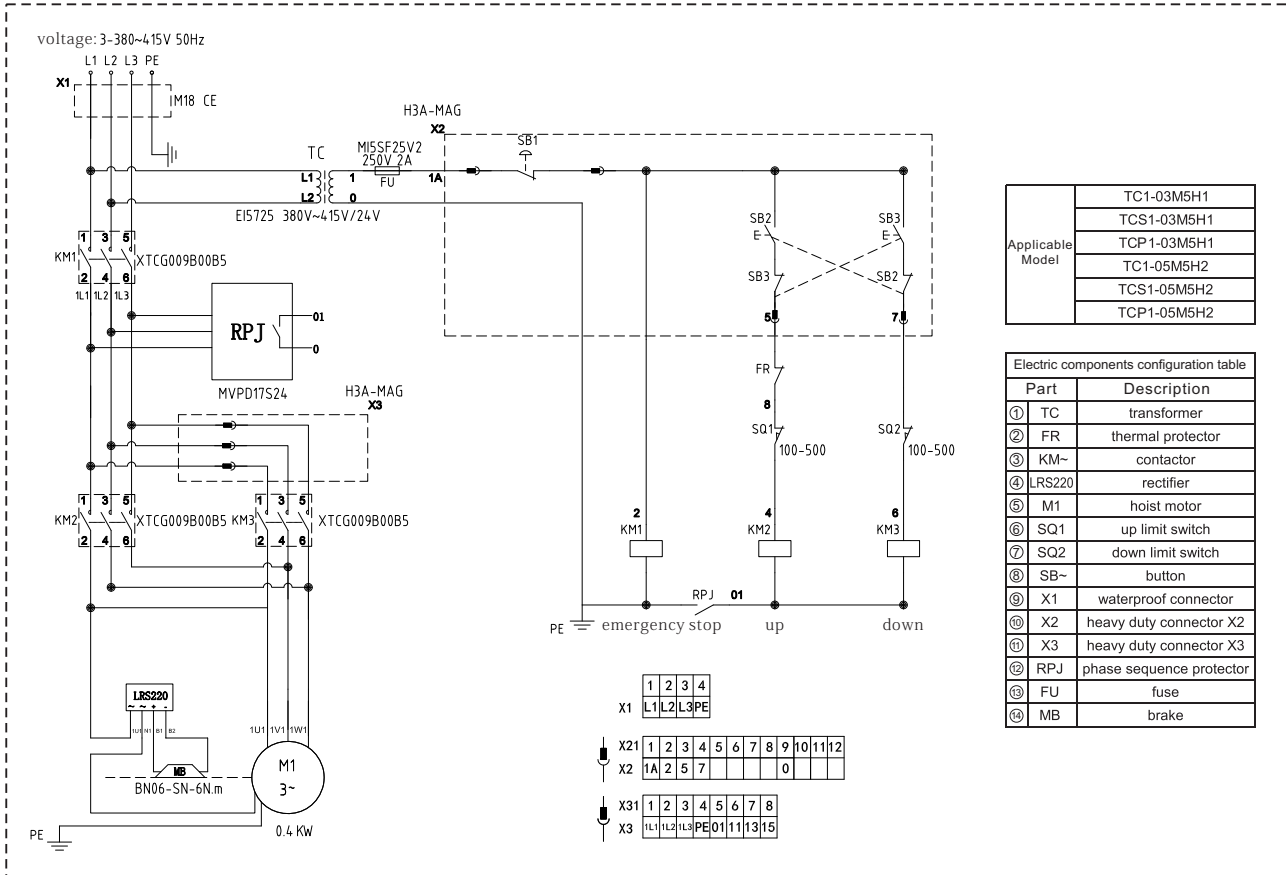


No.	Part	Quantity unit:pc	
		1t	2t
1	suspension shaft assembly	1	1
2	driving wheel assembly	4	4
3	driven wheel side plate	2	2
4	suspension plate	1	1

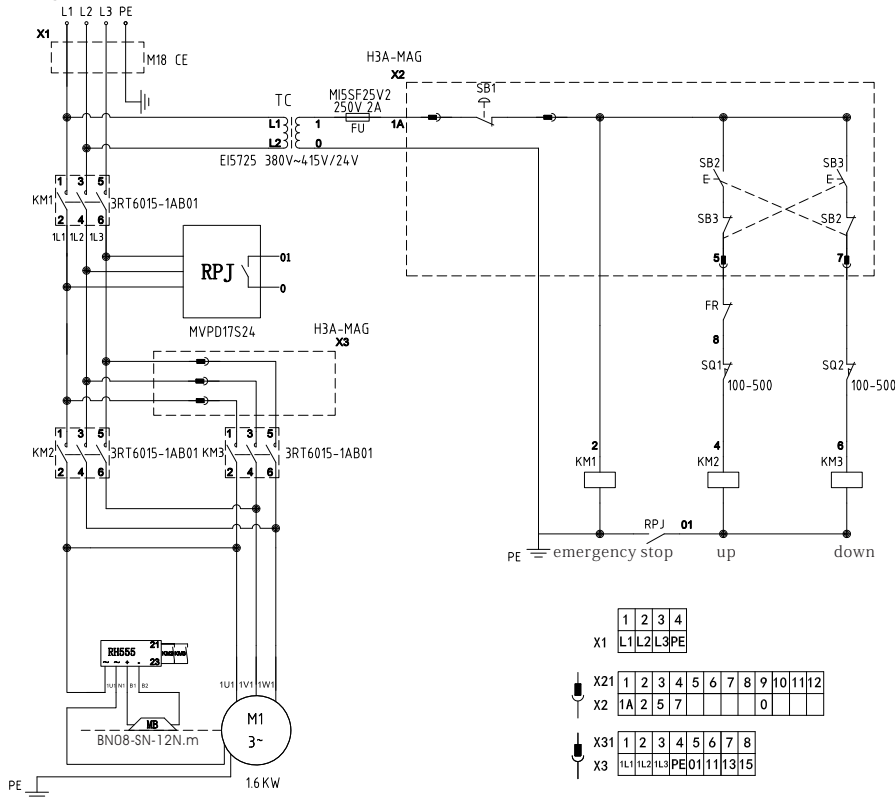
- If operator need more details information about spare parts, please contact with supplier and manufacturer directly.

1.4 Wiring diagram

▼ Hook suspension TC model ▼ Bracket suspension TCS model ▼ With manual trolley TCP model

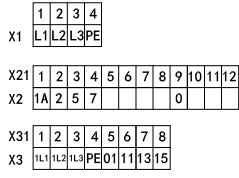


voltage: 3-380-415V 50Hz

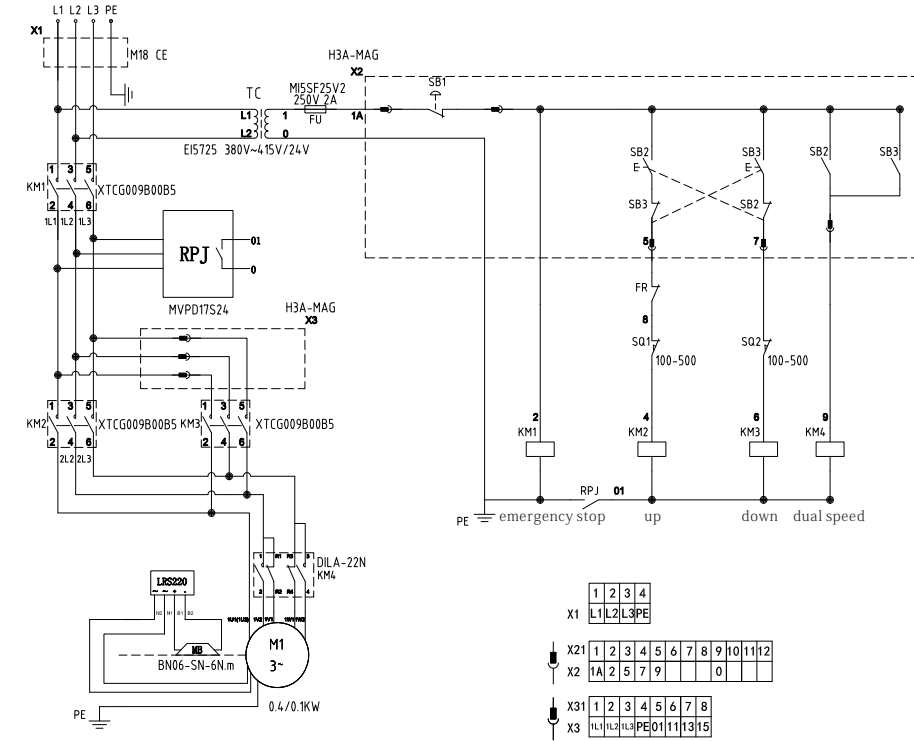


Applicable Model	TC3-10M5H1
	TCS3-10M5H1
	TCP3-10M5H1
	TC3-20M5H2
	TCP3-20M5H2

Part	Description
①	TC transformer
②	FR thermal protector
③	KM- contactor
④	RH555 rectifier
⑤	M1 hoist motor
⑥	SQ1 up limit switch
⑦	SQ2 down limit switch
⑧	SB- button
⑨	X1 waterproof connector
⑩	X2 heavy duty connector X2
⑪	X3 heavy duty connector X3
⑫	RPJ phase sequence protector
⑬	FU fuse
⑭	MB brake

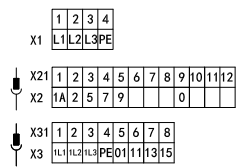


voltage: 3-380-415V 50Hz

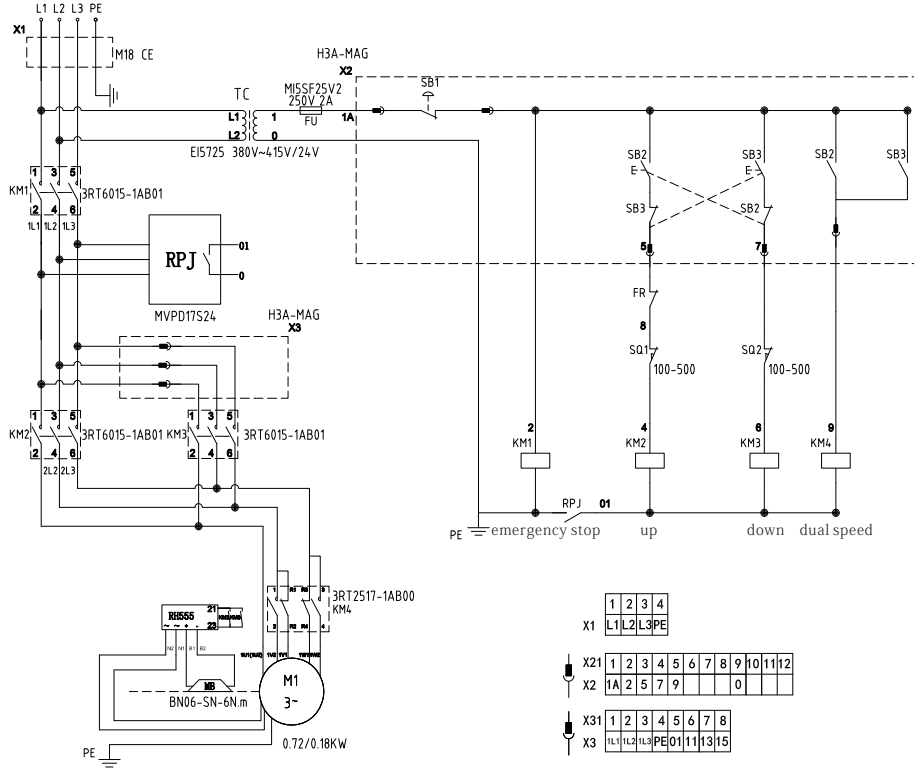


Applicable Model	TC1-03M5P1
	TCS1-03M5P1
	TCP1-03M5P1
	TC1-05M5P2
	TCS1-05M5P2

Part	Description
①	TC transformer
②	FR thermal protector
③	KM- contactor
④	LRS220 rectifier
⑤	M1 hoist motor
⑥	SQ1 up limit switch
⑦	SQ2 down limit switch
⑧	SB- button
⑨	X1 waterproof connector
⑩	X2 heavy duty connector X2
⑪	X3 heavy duty connector X3
⑫	RPJ phase sequence protector
⑬	FU fuse
⑭	MB brake



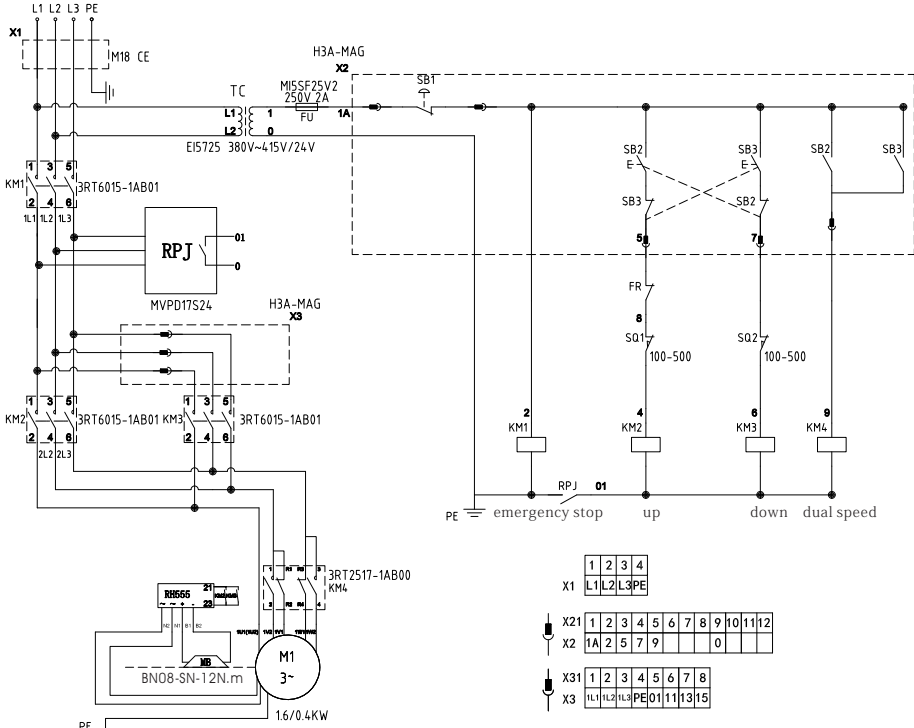
voltage: 3-380V~415 50Hz



Applicable Model	TC2-05M5P1
	TCS2-05M5P1
	TCP2-05M5P1
	TC2-10M5P2
	TCS2-10M5P2
TCP2-10M5P2	

Part	Description
①	TC transformer
②	FR thermal protector
③	KM- contactor
④	RH555 rectifier
⑤	M1 hoist motor
⑥	SQ1 up limit switch
⑦	SQ2 down limit switch
⑧	SB- button
⑨	X1 waterproof connector
⑩	X2 heavy duty connector X2
⑪	X3 heavy duty connector X3
⑫	RPJ phase sequence protector
⑬	FU fuse
⑭	MB brake

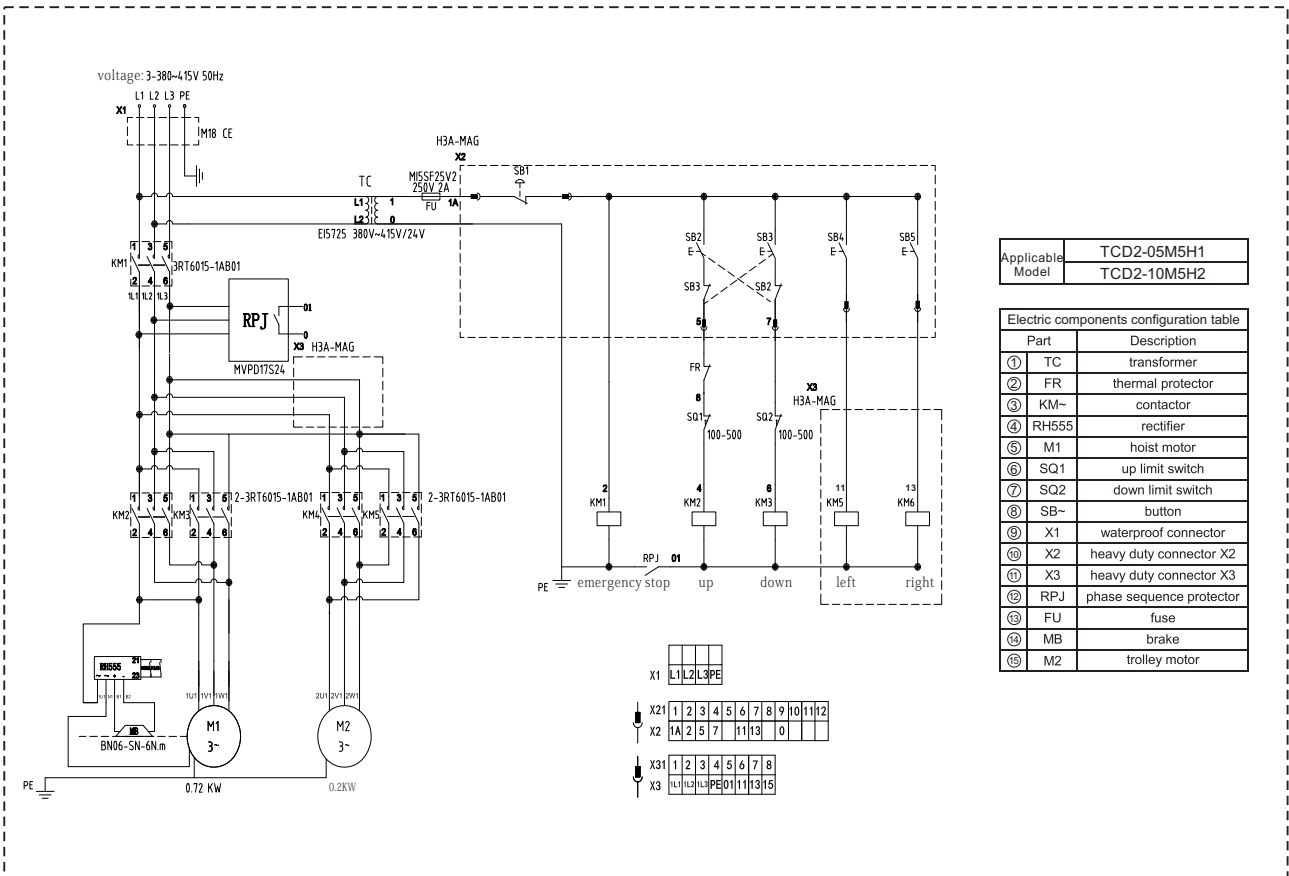
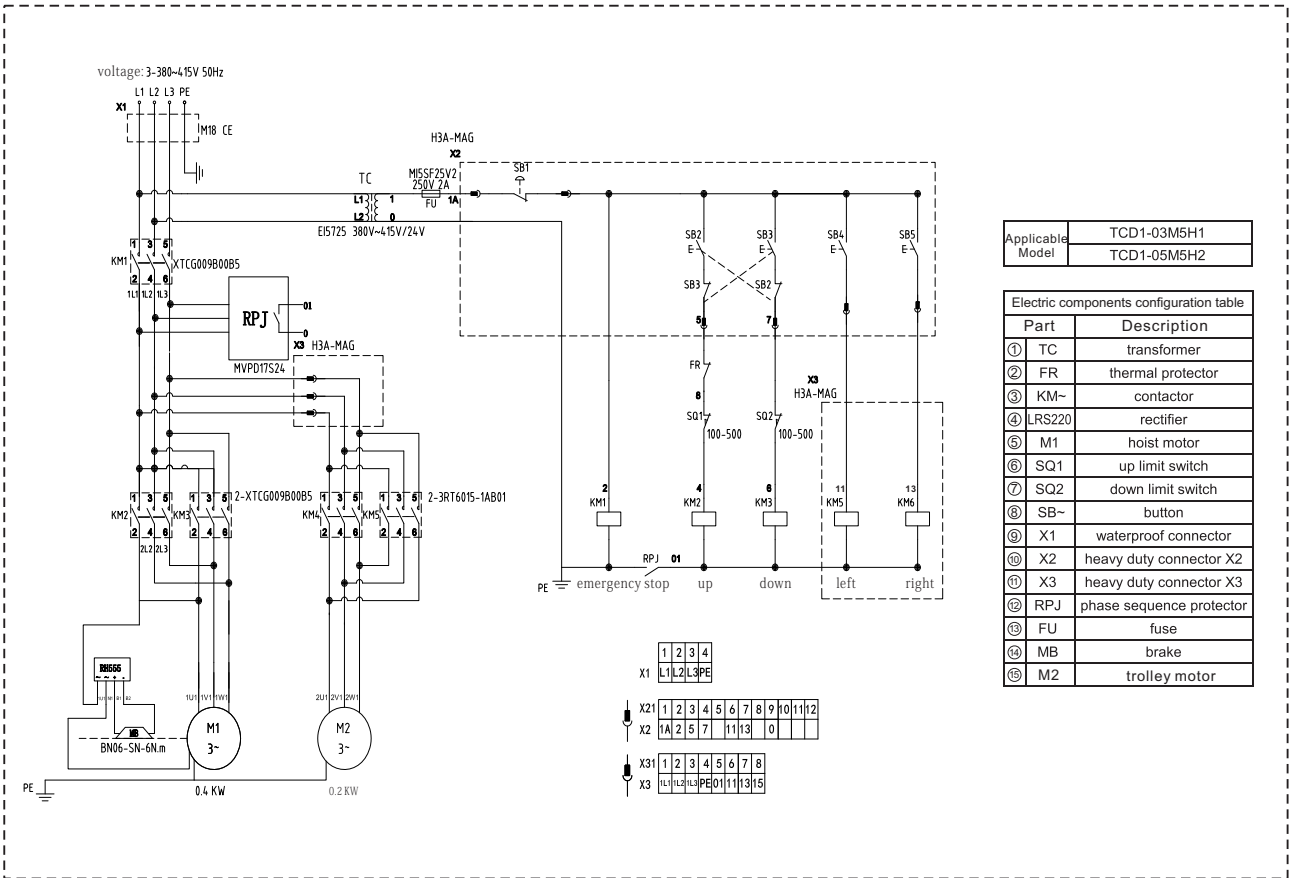
voltage: 3-380~415V 50Hz

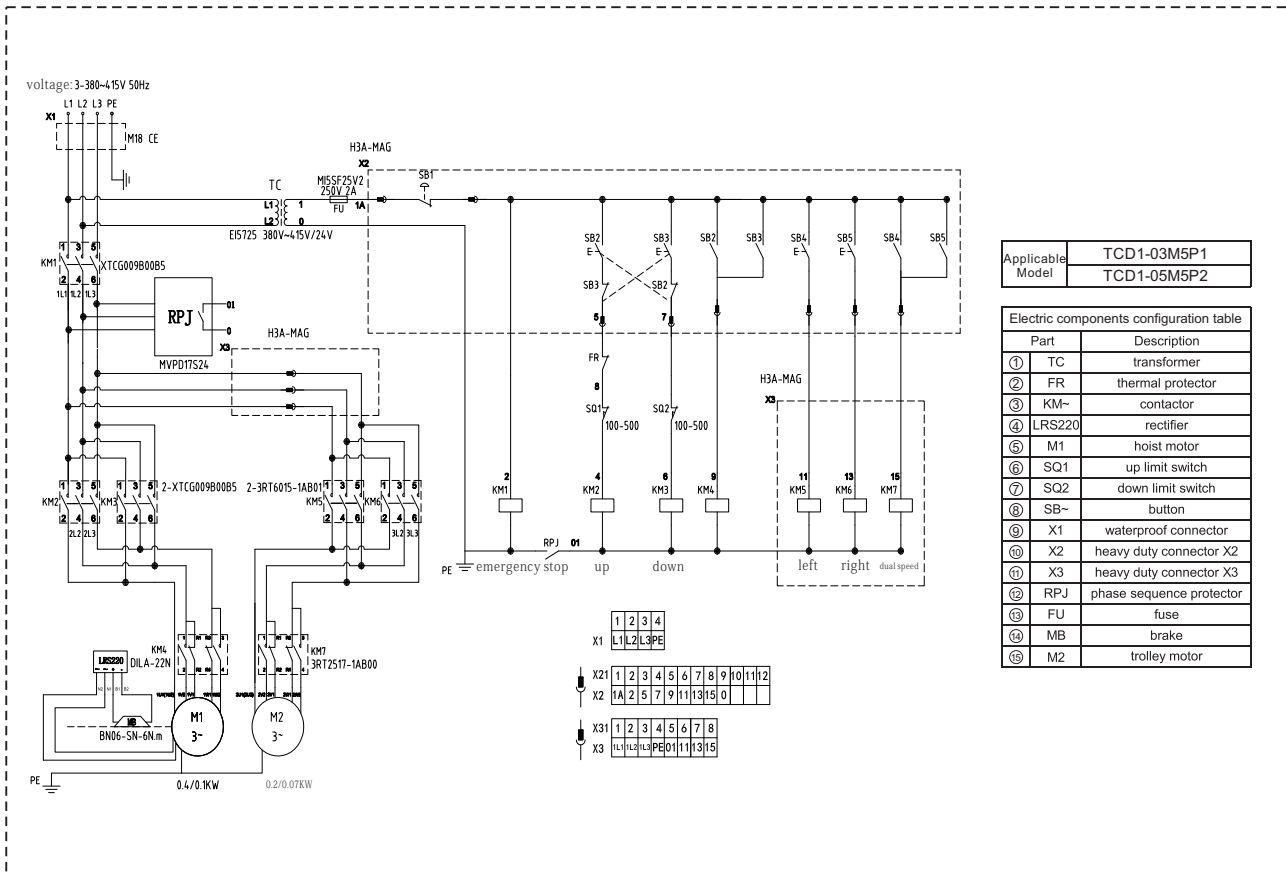
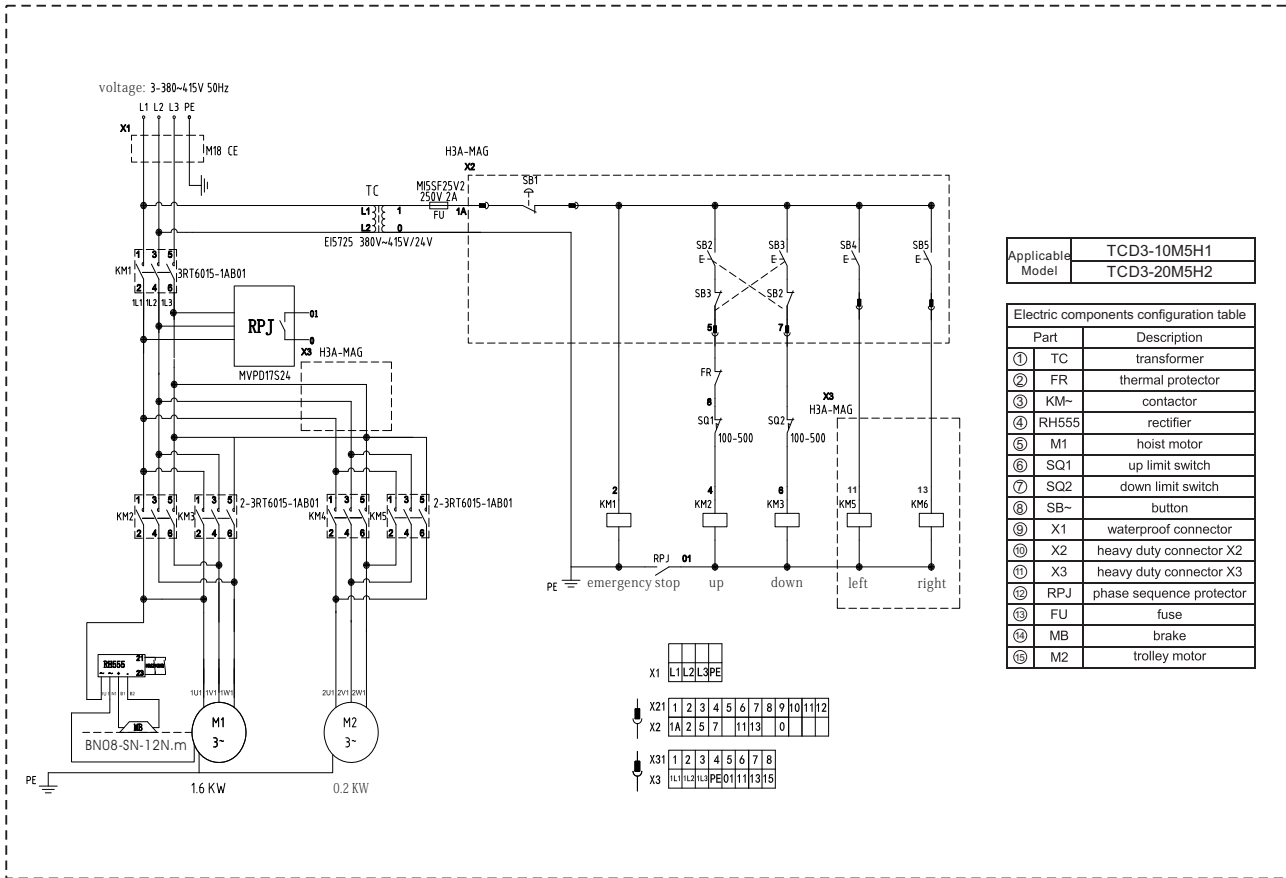


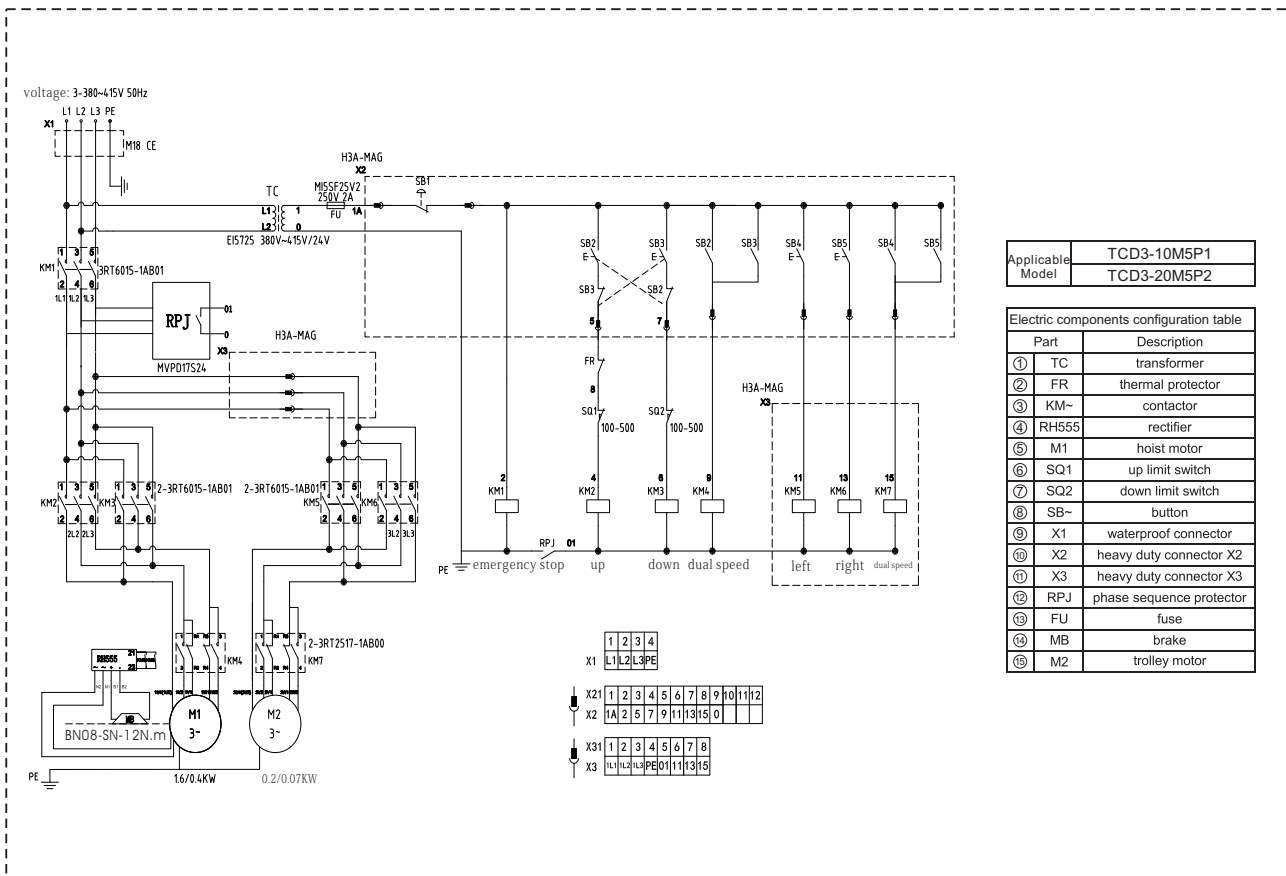
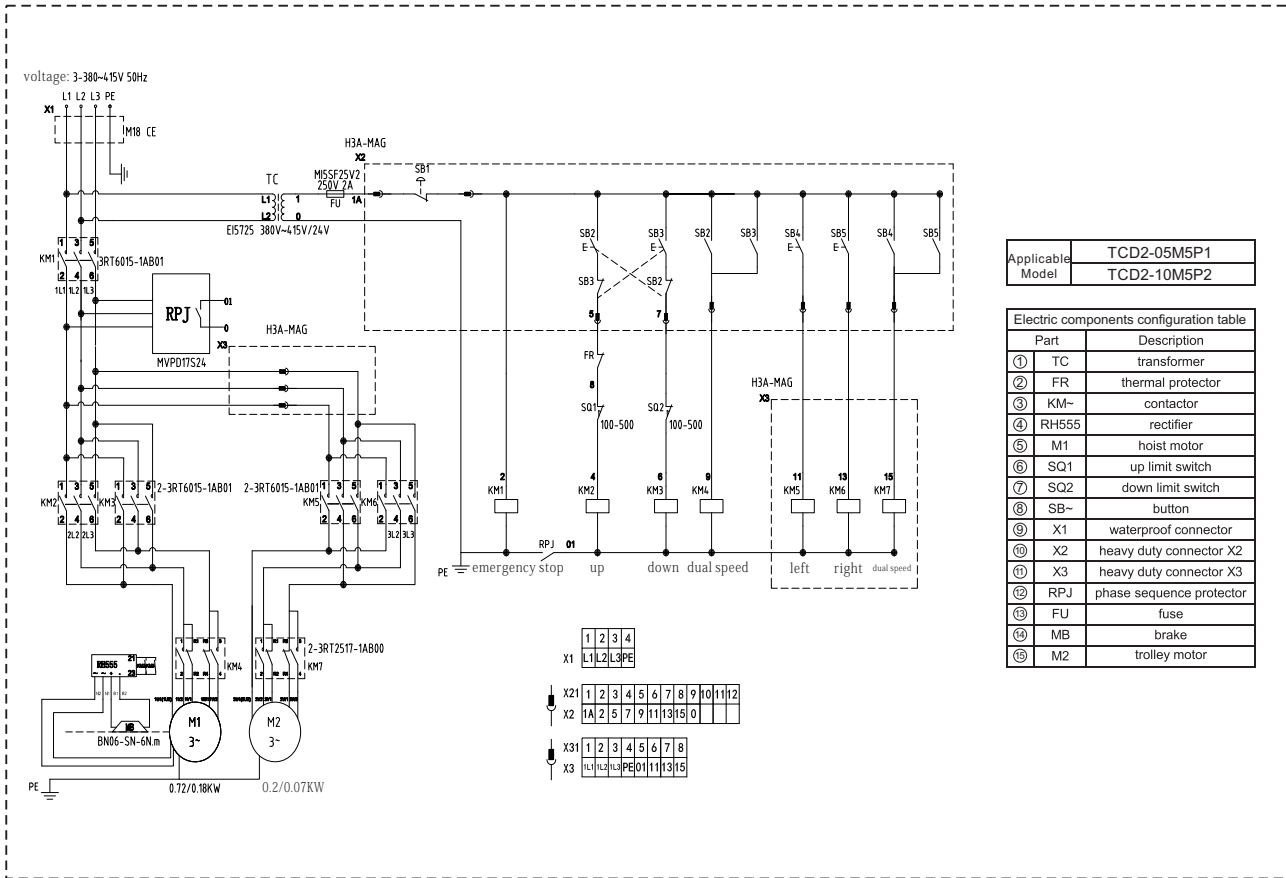
Applicable Model	TC3-10M5P1
	TCS3-10M5P1
	TCP3-10M5P1
	TC3-20M5P2
	TCS3-20M5P2
TCP3-20M5P2	

Part	Description
①	TC transformer
②	FR thermal protector
③	KM- contactor
④	RH555 rectifier
⑤	M1 hoist motor
⑥	SQ1 up limit switch
⑦	SQ2 down limit switch
⑧	SB- button
⑨	X1 waterproof connector
⑩	X2 heavy duty connector X2
⑪	X3 heavy duty connector X3
⑫	RPJ phase sequence protector
⑬	FU fuse
⑭	MB brake

▼ With electric trolley TCD model







1.5 Classification and service life

▼ The following table indicates the theoretical service life

Load Spectrum	Definition	Theoretical service life (h)			
		3200	6300	12500	25000
L1 - Light	mainly operated at very low loads and in exceptional cases at maximum loads	3200	6300	12500	25000
L2 - Medium	operated continually at low loads and frequently at maximum loads	1600	3200	6300	12500
L3 - Heavy	operated continually at medium loads and frequently at maximum loads	800	1600	3200	6300
L4 - Very Heavy	operated regularly at maximum and at almost maximum loads	400	800	1600	3200
FEM/ISO Rating		1Bm/M3	1Am/m4	2m/M5	3m/M6

▼ If the mean average operation time per day and load spectrum, then you can use following tabel for hoist selection

Load Spectrum	Definition	Average operation time per day (h)			
		2	2~4	4~8	8~16
L1 - Light	mainly operated at very low loads and in exceptional cases at maximum loads	2	2~4	4~8	8~16
L2 - Medium	operated continually at low loads and frequently at maximum loads	1	1~2	2~4	4~8
L3 - Heavy	operated continually at medium loads and frequently at maximum loads	0.5	0.5~1	1~2	2~4
L4 - Very Heavy	operated regularly at maximum and at almost maximum loads	0.25	0.25~0.5	0.5~1	1~2
FEM/ISO Rating		1Bm/M3	1Am/m4	2m/M5	3m/M6

▼ How to calculate average operation time per day

$$\text{Average operation time per day (h)} = \frac{2 \times \text{lifting height (m)} \times \text{load cycles (1/h)} \times \text{working time (h/day)}}{60 \text{ (min/h)} \times \text{lifting speed (m/min)}}$$

lifting height:

The actual lifting height

Load cycles:

Number of cycles per hour

Working time:

Average daily working hours

Lifting speed:

Lifting speed (normally the maximum lifting speed)

Contents


2. Installation instructions

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	TCD/TCP model assembling steps	23
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	Applicable TC model	25
	Applicable TCS model	25
	Applicable TCP model	25
	Control pendant - 5 buttons	26
	Applicable TCD model	26

2.1 Packaging

▼ Checking packaging

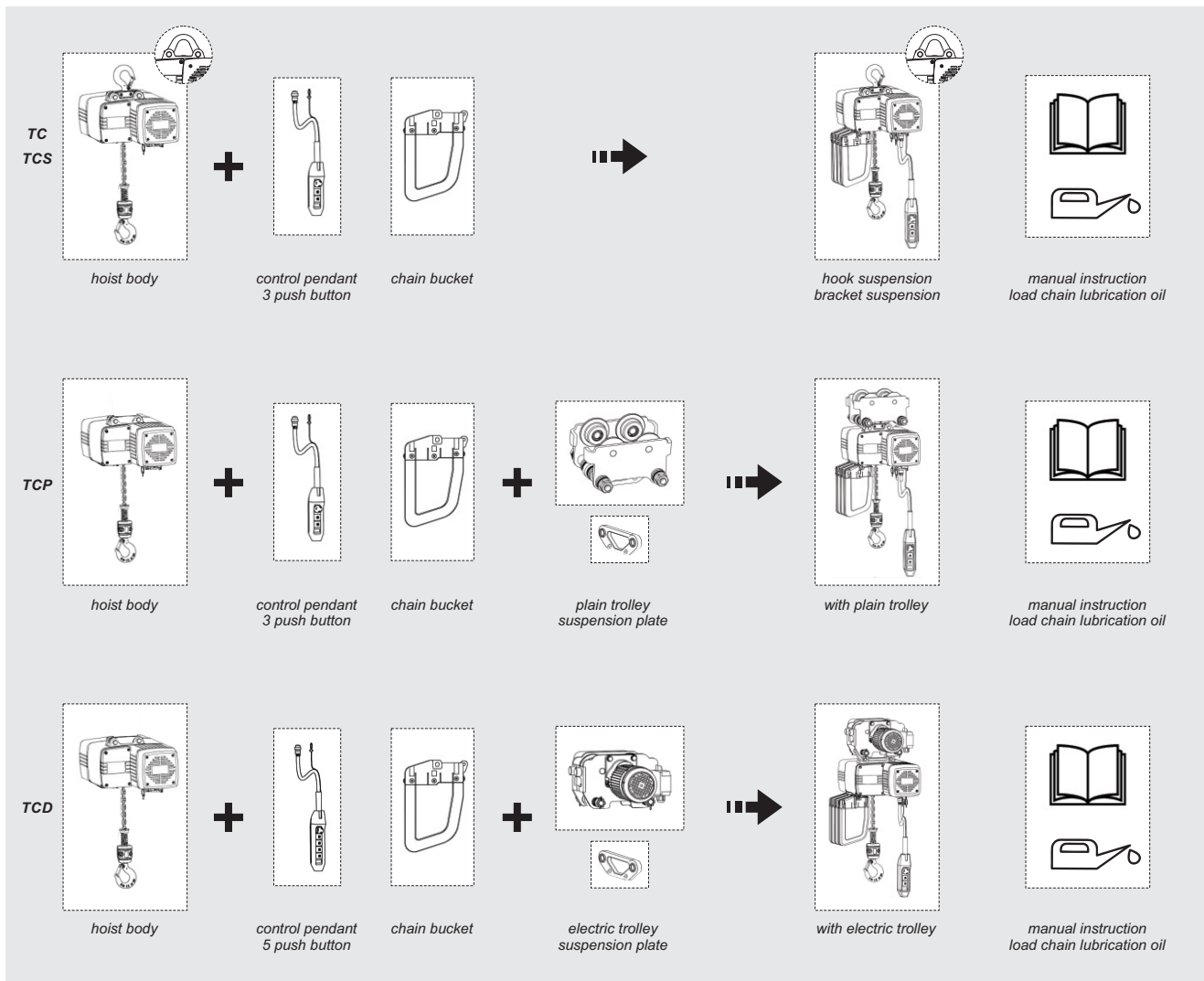
▼ The product components of each model are packaged individually as follows:

 Caution



Mandatory

- Make sure the consistency of packaging label and order.
- Make sure the packaging hasn't been damaged or opened during transportation.



- Electric trolley only suitable for combine with electric chain hoist.
- The standard length of power cable is 1.5m, if operator need different length, please contact with your supplier in advance.

2.2 Assembling steps

▼ TC/TCS model assembling steps

! Danger

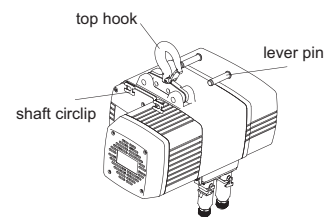


Mandatory

- Before assembling the hoist, please read and understand the assembly step.
- When assembling, make sure there is no electric shock and other dangerous conditions.
- Select the right type of chain bucket as spilled load chains can cause injury.
- Make sure the end side of load chain assembly with safety block and limit abutment.

1 Top hook/bracket suspension plate assembling (Pic.1)

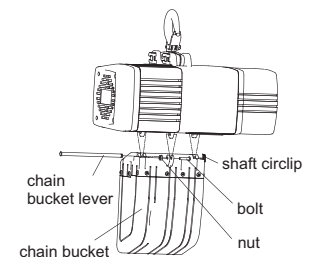
- 1.1 Put the top hook assembly into the slot, note the position of hook
- 1.2 Insert two lever pin and fixed by shaft circlip, as the 0.25t, the size of lever pin is different.
- 1.3 Check that all parts are properly assembly.



Pic.1

2 250kg size and 500kg size chain bucket assembling steps(Pic.2)

- 2.1 Put end part of chain into chain bucket, includes safety block, limit spring and abutment.
- 2.2 Put chain bucket into bottom slot of hoist.
- 2.3 Insert the chain bucket lever and fixed by shaft circlip
- 2.4 Install the screw and tighten the nut.
- 2.5 Check all parts are properly assembly.



Pic.2

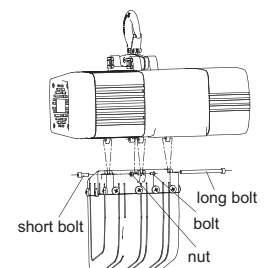
! Danger

Mandatory

- Make sure all fasteners are tightened during assembling

3 1t size chain bucket assembling steps(Pic.3)

- 3.1 Put end part of chain into chain bucket, includes safety block, limit spring and abutment.
- 3.2 Put chain bucket into bottom slot of hoist
- 3.3 Insert the long bolt and the short bolt, then install the bolt and nut which in the middle position, finally, tighten all bolts and nuts.
- 3.4 Check all parts are properly assembly.



Pic.3

4 Control pendant installation(Pic.4)

- 4.1 Insert the plug into the socket, the plug locked by the buckle of socket
- 4.2 Load rope of control pendant must fixed on suspension loop. The suspension loop of 250kg size on hoist body, the 0.5t and 1t on socket side.

5 Power cable assembling(Pic.4)

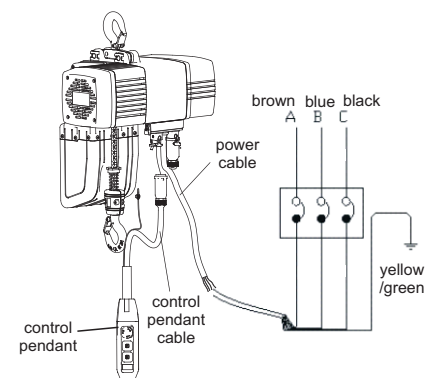
- 5.1 The working voltage and frequency is same as nameplate.
- 5.2 When connecting the power cable, must cut off the power supply.
- 5.3 If the hoist not working during test, plz check the 3phase wiring is correct.

! Danger



Mandatory

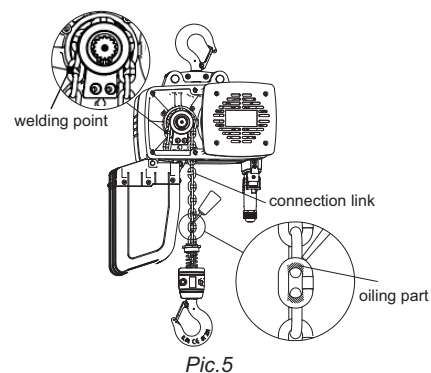
- Make sure the consistency of power voltage label and motor voltage
- Make sure the rated value of circuit breaker suitable for hoist



Pic.4

6 Load chain assembling and oiling(Pic.5)

- 6.1 Connect the load chain and connection links.
- 6.2 Press button to pass the load chain through the load sprocket, the welding point of load chain should be outward.
- 6.3 Take the connection links away.
- 6.4 Remove the dust and water from the load chain.
- 6.5 Oiling the load chain.



⚠ Danger



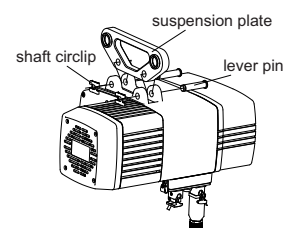
Mandatory

- Make sure the welding point of load chain should be outward.
- Oiling the load chain in correct position

▼ TCD/TCP model assembling steps

1 Suspension plate installation (Pic.6)

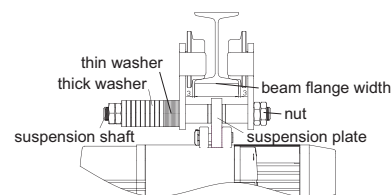
- 1.1 Put the suspension plate into the slot.
- 1.2 Insert two lever pin and fixed by shaft circlip, as 0.25t, the dimension of two lever pin is different.
- 1.3 Check that all parts are properly assembly.



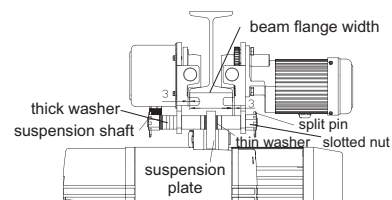
Pic.6

2. Combination (Pic.7.1/7.2)

- 2.1 Measure the beam flange width.
- 2.2 Install the washer on the suspension shaft until the distance of two wheels same as beam flange width.
- 2.3 Keep 3mm clearance between wheel edge and rail.
- 2.4 Insert two suspension shaft into suspension shaft and two side plates, make sure the suspension plate at middle of two side plate.
- 2.5 Install TCD model on rail, then tighten the slotted nuts on both sides of the suspension shaft by wrench, finally, insert the split pin to fix it.
- 2.6 Install TCP model on rail, then tighten the two nuts on both sides of the suspension shaft by wrench, make sure two nuts no gap.



Pic.7.1



Pic.7.2

⚠ Danger

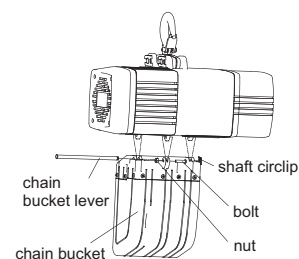


Mandatory

- Before assembling, install correct number of washers on suspension shaft.

3 250kg size and 500kg size chain bucket assembling steps(Pic.2)

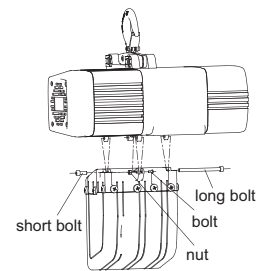
- 3.1 Put end part of chain into chain bucket, includes safety block, limit spring and limit abutment. 3.2 Put chain bucket into bottom slot of hoist.
- 3.3 Insert the chain bucket lever and fixed by shaft circlip
- 3.4 Install the screw and tighten the nut.
- 3.5 Check all parts are properly assembly.



Pic.2

4 1t size chain bucket assembling steps(Pic.3)

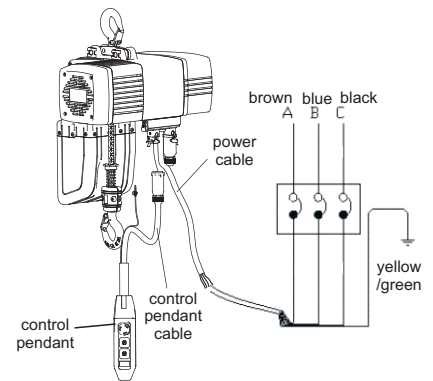
- 4.1 Put end part of chain into chain bucket, includes safety block, limit spring and limit abutment.
- 4.2 Put chain bucket into bottom slot of hoist
- 4.3 Insert the long bolt and the short bolt, then install the bolt and nut which in the middle position, finally, tighten all bolts and nuts.
- 4.4 Check all parts are properly assembly.



Pic.3

5 Control pendant installation(Pic.4)



- 5.1 Insert the plug into the socket, the plug locked by the buckle of socket.
- 5.2 Load rope of control pendant must fixed on suspension loop. The suspension loop of 250kg size on hoist body, the 0.5t and 1t on socket side.



Pic.4

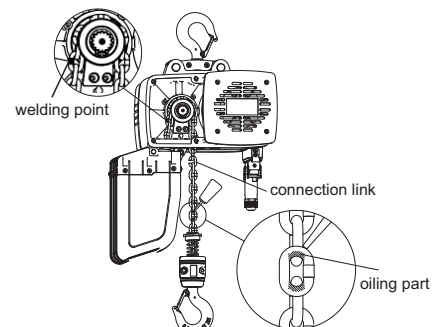
6 Power cable assembling(Pic.4)

- 6.1 The working voltage and frequency is same as nameplate.
- 6.2 When connecting the power cable, must cut off the power supply.
- 6.3 If the hoist not working during test, plz check the 3phase wiring is correct.



 Danger	
 Mandatory	<ul style="list-style-type: none">• Make sure the consistency of power voltage label and motor voltage• Make sure the rated value of circuit breaker suitable for hoist

7 Load chain assembling and oiling(Pic.5)

- 7.1 Connect the load chain and connection links.
- 7.2 Press button to pass the load chain through the load sprocket the welding point of load chain should be outward.
- 7.3 Take the connection links away.
- 7.4 Remove the dust and water from the load chain.
- 7.5 Oiling the load chain.



Pic.5

 Danger	
 Mandatory	<ul style="list-style-type: none">• Make sure the welding point of load chain should be outward.• Oiling the load chain in correct position

2.3 Control pendant

⚠ Danger



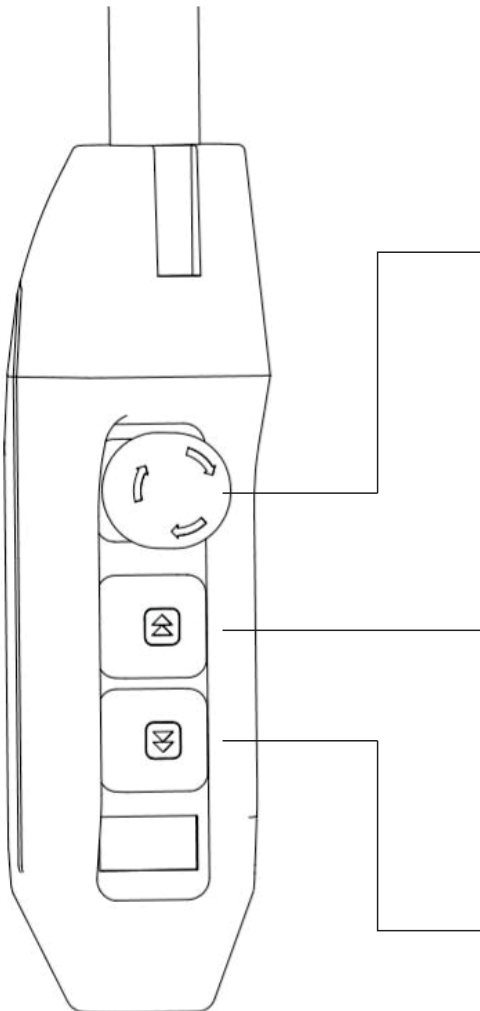
Forbidden

- Don't use the control pendant if the button is inflexible
- Don't hang control pendant cable on other items
- Don't forcibly pull control pendant cable.
- Don't throw the control pendant after operation to avoid hitting other items.

▼ Control pendant - 3 buttons

▼ Applicable model: TC model / TCS model / TCP model

▼ 3 buttons include 1 emergency stop button, 1 up direction button and 1 down direction button.



▼ Emergency stop

	<ul style="list-style-type: none"> • Press the emergency stop button , the hoist is stop working immediately, the control pendant is locked. • Turn emergency stop button on clockwise direction to unlock. • Keep the emergency stop button on lock condition when hoist and trolley not working.
--	---

▼ Up and down-single speed ▼ Up and down-dual speed

	<ul style="list-style-type: none"> • Press up button to lift the load, when the button is released, the hoist stop working immediately.
	<ul style="list-style-type: none"> • Press up button to lift the load with slow speed, When lifting the load at high speed, press the button further to the end. when the button is released, the hoist stop working immediately.
	<ul style="list-style-type: none"> • Press down button to lower the load, when the button is released, the hoist stop working immediately.
	<ul style="list-style-type: none"> • Press down button to lower the load with slow speed, When lowering the load at high speed, press the button further to the end. when the button is released, the hoist stop working immediately.

▼ Control pendant - 5 buttons

▼ Applicable model: TCD model

▼ 5 buttons include 1 emergency stop button, 1 up direction button, 1 down direction button, 1 left direction button and 1 right direction button.

▼ Emergency stop

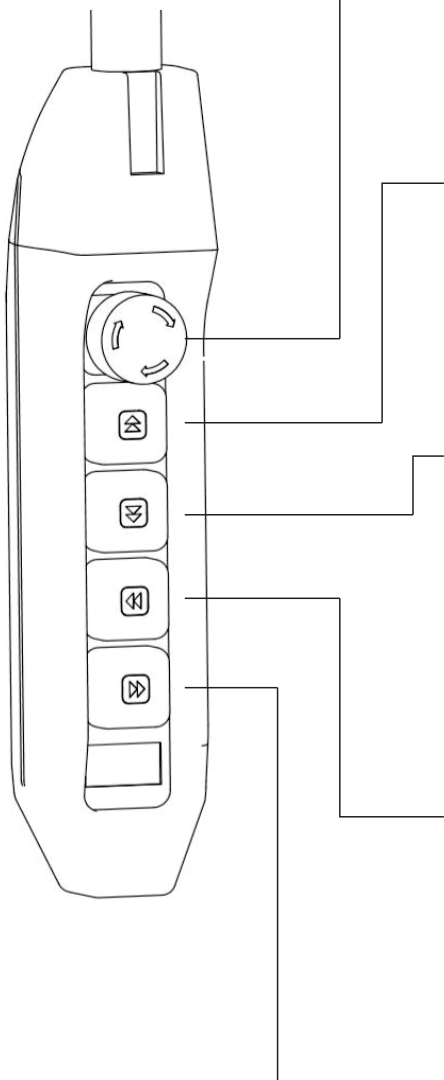
	<ul style="list-style-type: none"> • Press the emergency stop button , the hoist is stop working immediately, the control pendant is locked. • Turn emergency stop button on clockwise direction to unlock. • Keep the emergency stop button on lock condition when hoist and trolley not working.
--	---

▼ Up and down - single speed ▼ Up and down - dual speed

	<ul style="list-style-type: none"> • Press up button to lift the load, when the button is released, the hoist stop working immediately.
	<ul style="list-style-type: none"> • Press up button to lift the load with slow speed, When lifting the load at high speed, press the button further to the end. when the button is released, the hoist stop working immediately.
	<ul style="list-style-type: none"> • Press down button to lower the load, when the button is released, the hoist stop working immediately.
	<ul style="list-style-type: none"> • Press down button to lower the load with slow speed, When lowering the load at high speed, press the button further to the end. when the button is released, the hoist stop working immediately.

▼ Left and right - single speed ▼ Left and right - dual speed

	<ul style="list-style-type: none"> • Press left button to move the load, when the button is released, the trolley stop working immediately.
	<ul style="list-style-type: none"> • Press left button to move the load, when moving the load at high speed, press the button further to the end. when the button is released, the trolley stop working immediately.
	<ul style="list-style-type: none"> • Press right button to move the load, when the button is released, the trolley stop working immediately.
	<ul style="list-style-type: none"> • Press right button to move the load, when the button is released, when moving the load at high speed, press the button further to the end. the trolley stop working immediately.



Contents

3. Inspections

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3.1 Daily inspection

- In order to keep the hoist and trolley operation smooth for a long time, you must periodically inspection and replace the worn or damaged parts to avoid potential safety risks.
- The inspection period depends on working condition and classification of hoist and trolley, also consider the weariness and aging level of key parts. The inspection includes daily inspection, monthly inspection and annual inspection.

▼ Daily inspection:


It shall be inspected by the operator or specially designated personnel before operation.

▼ Monthly inspection:

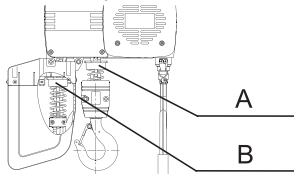
It shall be inspected by technical personnel or safety technical personnel, according to the actual situation of hoist and trolley operation condition.

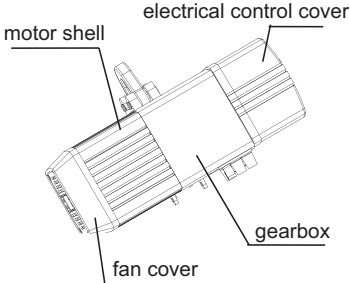
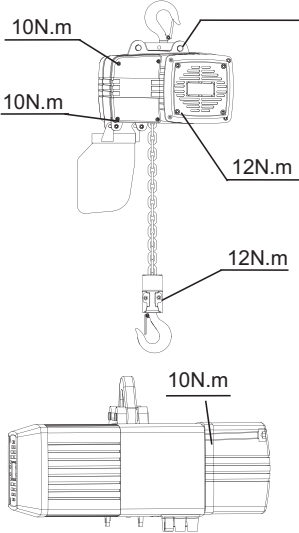
▼ Annual inspection:

It shall be inspected by technical personnel or safety technical personnel, according to the actual situation of hoist and trolley operation condition.


⚠ Danger	
 Mandatory	<ul style="list-style-type: none"> • It shall be inspected by the operator or specially designated personnel before operation. • If any abnormal situation found during daily inspection, please cut off the main power and mark with "Fault" immediately. Entrust technical maintenance personnel to carry out maintenance as soon as possible.

▼ TC electric chain hoist

Item	Method	Criteria	Solution
• Nameplate qarning label	• Visual inspection	• No shedding, data can be read clearly	• Replace the nameplate and warning label
• Control pendant	• Visual inspection	• No crack on the surface	• Replace the control pendant
	• Press emergency button	• Hoist stop working	• Replace the control pendant
• Load chain	• Visual inspection	• No crack rust and deformation on the surface	• Replace the load chain
		• Clean and oiling on the surface	• Remove the dust and oiling
• Limit spring(A) • Limit abutment(B)	• Visual inspection 	• No deformation on limit spring and limit abutment.	• Replace limit spring and limit abutment

Item	Method	Criteria	Solution
• Limit switch	• Hoist operation until limit abutment touch with limit switch	<ul style="list-style-type: none"> • Hoist stop woking • Hoist can woking on opposite direction 	• Replace or repair limit switch
• Hoist appearence	• Visual inspection 	• No deformation and crack on hoist appearence	• Replace the damaged parts
• Bolt;nut;cotter pin;shaft circlip and other fasteners	<ul style="list-style-type: none"> • Visual inspecion and special tool • Adjust torque on bolts and nuts. 	<ul style="list-style-type: none"> • The torque reaches the required value, and the shaft circlip and cottor pin is not loose. 	<ul style="list-style-type: none"> • Fastening immediately <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">! Danger</p> <p style="text-align: center;">! Mandatory</p> <ul style="list-style-type: none"> • The failure of any fastener may result in the fall of hoist or parts. • Please confirm carefully before operation </div>
• Slip clutch	• Hoist working	• No slipping	• Adjust the slip clutch
• Brake	• Hoist woking without load	• Brake effective is stable	<ul style="list-style-type: none"> • Replace the brake • Adjust brake clearance
• Top hook • Bottom hook	• Visual inspection	<ul style="list-style-type: none"> • No deformation and crack on the surface • The hook rotates flexibly 	• Replace the hook
• Safety latch	• Visual inspection	• No deformation	• Replace safety latch
	• Press the safety latch	• Safety latch and hook head will close well	
• Hook housing	• Visual inspection	• Bolt and nut is not loose	• Fastening immediately
• Abnormal noise	• Hoist woking without load	• No abnormal sound from hoist and load chain	• Entrust technical maintenance personnel to inspection

▼ DC-C electric trolley ▼ BS plain trolley

Item	Method	Criteria	Solution
<ul style="list-style-type: none"> Nameplate warning label 	<ul style="list-style-type: none"> Visual inspection 	<ul style="list-style-type: none"> No shedding, data can be read clearly 	<ul style="list-style-type: none"> Replace the nameplate and warning label
<ul style="list-style-type: none"> All parts 	<ul style="list-style-type: none"> Visual inspection 	<ul style="list-style-type: none"> No deformation, crack and rust on all parts 	<ul style="list-style-type: none"> Replace the parts
<ul style="list-style-type: none"> Bolt; nut; cotter pin; shaft circlip and other fasteners 	<ul style="list-style-type: none"> Visual inspection and special tool 	<ul style="list-style-type: none"> The torque reaches the required value, and the shaft circlip and cotter pin is not loose. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;"> Danger</p> <ul style="list-style-type: none"> The failure of any fastener may result in the fall of hoist or parts. Please confirm carefully before operation </div>	<ul style="list-style-type: none"> Fastening immediately
<ul style="list-style-type: none"> Brake 	<ul style="list-style-type: none"> Hoist working without load 	<ul style="list-style-type: none"> Brake effective is stable 	<ul style="list-style-type: none"> Replace the brake Adjust brake clearance
<ul style="list-style-type: none"> Movement 	<ul style="list-style-type: none"> Press left or right direction button 	<ul style="list-style-type: none"> Wheel running smooth No abnormal noise 	<ul style="list-style-type: none"> Replace the wheel or trolley

3.2 Monthly inspection

⚠ Danger



Forbidden

- It shall be inspected by technical personnel or safety technical personnel, according to the actual situation of hoist or trolley operation condition.
- Do not adjust or remove the brake and brake disc.
- Do not adjust the adjusting nut of the slip clutch.
- Turn off the power during monthly inspection
- Do not do monthly inspection under the condition of loading.

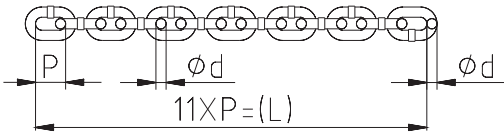
⚠ Warning

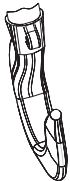
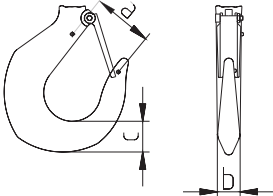


Mandatory

- When monthly inspection of hoist or trolley is implemented, daily inspection is also implemented
- If any abnormal situation found during daily inspection, please cut off the main power and mark with "Fault" immediately.
- After the monthly inspection, test the functions of hoist or trolley to ensure that the functions can be correctly performed.

▼ TC electric chain hoist

Item	Method	Criteria	Solution																							
• Grounding • Resistance	• Multimeter	• <math><0.1M\Omega</math>	• Rewiring																							
• Insulation	• Megger	• >1.5M Ω	• Replace the parts																							
• Brake	• Lift with rated load • Press emergency button	• The slide distance is less than 1% of lifting speed	• Adjust brake clearance																							
• Limit switch	• Hoist operation until limit abutment touch with limit switch	• Hoist stop working	• Replace or repair limit switch																							
• Abrasion of load chain	• Measure the dimension  <table border="1" data-bbox="387 1765 1094 2016"> <thead> <tr> <th rowspan="2">Hoist size</th> <th colspan="2">d(mm)</th> <th colspan="2">L(mm)</th> </tr> <tr> <th>standard</th> <th>scrap</th> <th>standard</th> <th>scrap</th> </tr> </thead> <tbody> <tr> <td>TC1</td> <td>4</td> <td>≤3.6</td> <td>132</td> <td>≥134</td> </tr> <tr> <td>TC2</td> <td>5</td> <td>≤4.5</td> <td>165</td> <td>≥167.5</td> </tr> <tr> <td>TC3</td> <td>7.1</td> <td>≤6.4</td> <td>231</td> <td>≥234.5</td> </tr> </tbody> </table>	Hoist size	d(mm)		L(mm)		standard	scrap	standard	scrap	TC1	4	≤3.6	132	≥134	TC2	5	≤4.5	165	≥167.5	TC3	7.1	≤6.4	231	≥234.5	• Replace the load chain <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">⚠ Warning</p> <p>• If the load chain is abrasion, then must check the load sprocket.</p> </div>
Hoist size	d(mm)		L(mm)																							
	standard	scrap	standard	scrap																						
TC1	4	≤3.6	132	≥134																						
TC2	5	≤4.5	165	≥167.5																						
TC3	7.1	≤6.4	231	≥234.5																						

Item	Method	Criteria	Solution																																			
<ul style="list-style-type: none"> • Top hook • Bottom hook 	<ul style="list-style-type: none"> • Visual inspection 	<ul style="list-style-type: none"> • No deformation and bending • No rust and crack • No visible scratches 	<ul style="list-style-type: none"> • Replace the hook 																																			
<ul style="list-style-type: none"> • Top hook • Bottom hook opening size(a) and abrasion (b,c) 	<ul style="list-style-type: none"> • Measure the dimension 	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;">! Warning</p> <ul style="list-style-type: none"> • Record dimension of a,b,c before first operation </div> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Rated load</th> <th>a(mm)</th> <th colspan="2">b(mm)</th> <th colspan="2">c(mm)</th> </tr> <tr> <th>standard</th> <th>standard</th> <th>scrap</th> <th>standard</th> <th>scrap</th> </tr> </thead> <tbody> <tr> <td>0.25</td> <td>45</td> <td>18</td> <td>≤17.1</td> <td>19.5</td> <td>≤18.5</td> </tr> <tr> <td>0.5</td> <td>50</td> <td>18</td> <td>≤17.1</td> <td>21</td> <td>≤19.95</td> </tr> <tr> <td>1</td> <td>60</td> <td>20</td> <td>≤19</td> <td>24</td> <td>≤22.8</td> </tr> <tr> <td>2</td> <td>70</td> <td>26</td> <td>≤24.7</td> <td>42</td> <td>≤39.9</td> </tr> </tbody> </table>	Rated load	a(mm)	b(mm)		c(mm)		standard	standard	scrap	standard	scrap	0.25	45	18	≤17.1	19.5	≤18.5	0.5	50	18	≤17.1	21	≤19.95	1	60	20	≤19	24	≤22.8	2	70	26	≤24.7	42	≤39.9	<ul style="list-style-type: none"> • Replace the hook
Rated load	a(mm)	b(mm)		c(mm)																																		
	standard	standard	scrap	standard	scrap																																	
0.25	45	18	≤17.1	19.5	≤18.5																																	
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1	60	20	≤19	24	≤22.8																																	
2	70	26	≤24.7	42	≤39.9																																	
<ul style="list-style-type: none"> • Chain bucket • Bolt and nut 	<ul style="list-style-type: none"> • Visual inspection and special tool 	<ul style="list-style-type: none"> • No deformation • The connection of the chain bucket and hoist body is reliable. • Make sure there is no mess in the chain bucket • Make sure the chain bucket suit to the lifting height <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">! Warning</p> <ul style="list-style-type: none"> • Do not use broken chain bucket • Make sure the chain bucket suit to the lifting height </div>	<ul style="list-style-type: none"> • Change chain bucket • Tighten the bolt and nut • Clean the chain bucket • Change to the appropriate chain bucket 																																			

Item	Method	Criteria	Solution
•Control pendant	• Visual inspection • Press buttons	• No deformation • No bolt loose. • After pressing the button,the action of each button and hoist is coincident	• Replace the controle pendant • Tighten the bolt • Rewiring
•Cable of control pendant	• Visual inspection	• Connect the hoist correctly	• Replace cable
		• No scratches	
		• Enough length	
•Power cable	• Visual inspection	• Connect the hoist correctly	• Replace power cable
		• No scratches	
		• Enough length	
•Abnormal noise	• Test hoist without rated load	• No abnormal noise from motor and brake	• Check or replace the • Motor and brake
		• No abnormal noise from gearbox	• Check or replace the gearbox
		• No abnormal noise from load chain	• Check or replace the load chain

▼ DC-C electric trolley ▼ BS plain trolley

Item	Method	Criteria	Solution
•Cable hanger	• Visual inspection and test	• No visible scratches	• Reassemble
		• Move smoothly	
•Suspension plate	• Visual inspection and special tool	• The connection of hoist and trolley is tighten	• Tighten the blot and nut
		• No deformation and scratches	• Replace the suspection plate
•Travel rail	• Visual inspection	• No deformation and scratches	• Replace the rail

3.3 Annual inspection

⚠ Danger



Forbidden

- Do not adjust or remove the brake and brake disc.
- Do not adjust the adjusting nut of the slip clutch.
- Turn off the power during monthly inspection
- Do not do annual inspection under the condition of loading.

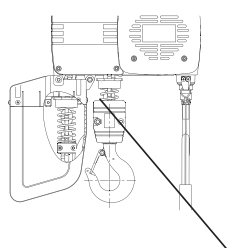
⚠ Warning

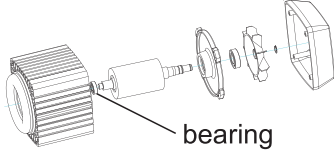


Mandatory

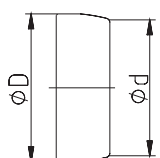
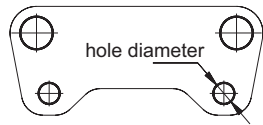
- It shall be inspected by technical personnel or safety technical personnel, according to the operation condition of hoist and trolley
- When monthly inspection of hoist or trolley is implemented, daily inspection is also implemented
- If any abnormal situation found during daily inspection, please cut off the main power and mark with "Fault" immediately.
- After the monthly inspection, test the functions of hoist or trolley to ensure that the functions can be correctly performed.
- Keep away from fire when oiling chain and add lubrication oil
- When annual inspection of hoist or trolley is implemented, put the hoist and trolley on the ground or table.

▼ TC electric chain hoist

Item	Method	Criteria	Solution
<ul style="list-style-type: none"> • Chain guide supporting plate 	<ul style="list-style-type: none"> • Visual inspection and special tools  <p>Chain guide supporting plate</p>	<ul style="list-style-type: none"> • No bending • No deformation • No crack 	<ul style="list-style-type: none"> • Replace the chain guide supporting plate
<ul style="list-style-type: none"> • Oil leakage 	<ul style="list-style-type: none"> • Visual inspection 	<ul style="list-style-type: none"> • Oil leak from oil seal 	<ul style="list-style-type: none"> • Replace the oil seal
		<ul style="list-style-type: none"> • Oil leak from gearbox body 	<ul style="list-style-type: none"> • Replace gasket
<ul style="list-style-type: none"> • Appearance of brake 	<ul style="list-style-type: none"> • Open the control box cover visual inspection 	<ul style="list-style-type: none"> • No deformation and damage 	<ul style="list-style-type: none"> • Replace the brake
		<ul style="list-style-type: none"> • Bolts are not loosened 	<ul style="list-style-type: none"> • Tighten bolt

Item	Method	Criteria	Solution
• Load sprocket	• Visual inspection	<ul style="list-style-type: none"> • No deformation • No abrasion • No damaged 	• Replace the load sprocket
• Bearing of slip clutch	• Visual inspection and turning bearing by hand 	<ul style="list-style-type: none"> • No damaged • Flexible rotation 	• Replace the bearing
• Electric components wiring	<ul style="list-style-type: none"> • Visual inspection • Remove electrical covers 	• No damage, burn out	• Replace the parts
		• Bolts are not loosened	• Tighten bolts
		• Wiring is not loosened	• Rewiring
		• Make sure there is no mess in the chain bucket	• Remove the mess

▼ DC-C electric trolley ▼ BS plain trolley

Item	Method	Criteria	Solution																	
• Appearance of brake	• Open the control box cover visual inspection	• No deformation and damage	• Replace the brake																	
		• Bolts are not loosened	• Tighten bolt																	
• Wheel	• Measure the dimension D and d 		• Replace the wheel																	
		<table border="1"> <thead> <tr> <th rowspan="2">Rated load</th> <th colspan="2">D (mm)</th> <th colspan="2">d (mm)</th> </tr> <tr> <th>standard</th> <th>scrap</th> <th>standard</th> <th>scrap</th> </tr> </thead> <tbody> <tr> <td>1t</td> <td>68</td> <td>64</td> <td>64</td> <td>60</td> </tr> <tr> <td>2t</td> <td>75</td> <td>71</td> <td>70</td> <td>66</td> </tr> </tbody> </table>	Rated load	D (mm)		d (mm)		standard	scrap	standard	scrap	1t	68	64	64	60	2t	75	71	70
Rated load	D (mm)			d (mm)																
	standard	scrap	standard	scrap																
1t	68	64	64	60																
2t	75	71	70	66																
• Suspension shaft	• Visual inspection	• No deformation and abrasion	• Replace the suspension shaft																	
	• Measure the diameter of suspension shaft	• Scarp: abrasion is more than 5% of diameter																		
• Suspension plate	• Visual inspection • Measure the diameter of hole 	• Bolt and nut not loosened	• Tighten bolt and nut																	
		• Scarp: abrasion is more than 5% of diameter	• Replace the suspension plate																	
• Gearbox	• Visual inspection	• No oil leakage	• Replace the gearbox																	
		• No damage																		

Contents

4. Troubleshooting

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4 Troubleshooting

▼ TC electric chain hoist

Problem	Cause	Solution
• The hoist does not work	• Electrical components is loosened	• Check and tighten all wiring points
	• Electrical components is damaged	• Check and replace electric components
	• Circuit breaker trips because of short circuit	• Repair and replace the circuit breaker
	• Circuit breaker trips due to insufficient capacity	• Replace the circuit breaker with sufficient capacity
	• The wiring terminal is loosened	• Check and tighten all wiring points
	• Excessive inching caused the contactor coil burn out	• Replace the contactor
	• The power cable is disconnected	• Check and tighten all wiring points
	• The power cable burned due to insufficient capacity	• Replace the power cable with sufficient capacity
• Brake does not open	• Brake clearance is too large	• Adjust brake clearance
	• Brake coil is broken	• Replace the brake coil or brake
• Brake working slowly	• The rectifier is incorrectly connected	• Check the wiring diagram to connect the rectifier correctly
• Hoist not lift load	• Overload	• Reduce the load until lift load
• Load drops after hoist stop working	• Friction disc abrasion too much	• Replace slip clutch <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <div style="background-color: #cccccc; padding: 2px; display: flex; align-items: center;"> Danger </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="text-align: center; margin-right: 10px;"> <small>Forbidden</small> </div> <ul style="list-style-type: none"> • Don't adjust the adjusting nut </div> </div>
• Abnormal noise from load chain	• Dry surface of load chain	• Oiling load chain
	• Load sprocket abrasion too much	• Replace load sprocket
	• Load chain diameter close to scrap standard	• Replace load chain
• Load chain deformation	• Load chain twist inside of hoist body	• Reinstall load chain and chain sprocket
	• Bottom hook is flipping	• Make sure the bottom hook is not flipping when adopt two chain falls
	• Humidity is too high	• Keep the surface of the control pendant dry
	• Excessive accumulation of dust on electrical parts leads to conduction	• Keep the electric elements clean

Problem	Cause	Solution
• Top/bottom hook rotation not flexible	• Bearing is damaged	• Replace the bearing
	• Insufficient grease on bearing	• Add grease
• Top/bottom hook deformation and opening size enlarge	• Wrap the load chain around the load	• Keep the load chain on vertical position
	• Support the load with the hook tip	• The load should be supported in the middle of the hook
	• Hanging method of sling is wrong	• The angle of sling should be less than 120
• The load shaking	• Chain guide cover abrasion	• Not tilt lift

▼ DC-C electric trolley ▼ BS plain trolley

Problem	Cause	Solution
• Trolley not move on straight line • Abnormal noise	• Brake disc abrasion	• Replace the brake disc
	• Wheel deformation and damage	• Replace the wheel
	• Bearing of wheel is scrap	• Replace the wheel
• Wheel not working	• Brake not working	• Check and adjust brake clearance
	• Electric components	• Check and replace the parts
	• The gears don't mesh properly	• Check and replace the wheel
• Wheel is skidding	• Rail is tilted	• Keep the rail horizontality
	• There's oil on the surface of rail	• Removing the oil
• Wheel is not touch with the rail	• Lift title	• Not tilt lift