



Original Instruction

Electric Chain Hoist ER2 – High Function Series

Dual Speed Inverter (VFD) [125 kg to 5 t]

Step-less Switch

Owner's Manual (Supplement)

Introduction

ER2 electric chain hoist high function series step-less switch is a special-purpose component designed to enhance the functions of the ER2 electric chain hoist. It allows the lifting/lowering speed to change in a step-less manner by adjusting depression of the push button, improving workability by leaps and bounds.

Safety Precautions

DANGER



Prohibited

- Do not use the parts for the step-less switch for other than the ER2 electric chain hoist.

Failure to comply with this instruction may result in death or serious injury.



Mandatory

- When assembling the step-less switch to the existing ER2, be sure to consult the nearest KITO sales outlet or service shop.
- The Manual describes the information peculiar to the step-less switch. Prior to use, read it together with “KITO ER2 Series Electric Chain Hoist, Owner’s Manual” (separately provided) for correct and safe operation.

Failure to comply with these instructions may result in death or serious injury.

Product Specifications and Operational Environment

■ Product Specifications (ER2 Electric Chain Hoist with Step-less Switch)

Applicable Model: ER2 electric chain hoist (dual speed inverter type, 125 kg to 5 t)

Supply voltage: 3-phase, 230V-50 Hz, 400 V-50 Hz

Speed ratio: 6:1 (Maximum speed 6 times higher than minimum speed)

Push button switch protection code: IP55

Ambient temperature: -20°C to 40°C

Ambient humidity: 85%RH (no condensation)

* For the operational environment conditions of the product, see “KITO ER2 Series Electric Chain Hoist (125 kg to 5 t), Owner’s Manual”.

Types of ER2 Electric Chain Hoists with Step-less Switches

Capacity	Body size	Product code	Lifting speed (m/s)			Lifting speed (m/min)		
			50/60Hz			50/60Hz		
			High	to	Low	High	to	Low
125 kg	ER2-B	ER2-001HV	0.277	to	0.0461	16.6	to	2.8
250 kg		ER2-003SV	0.179	to	0.0299	10.8	to	1.8
500 kg	ER2-C	ER2-003HV	0.261	to	0.0435	15.7	to	2.6
		ER2-005LV	0.075	to	0.0125	4.5	to	0.8
1 t	ER2-D	ER2-005SV	0.142	to	0.0237	8.5	to	1.4
		ER2-010LV	0.0693	to	0.0115	4.2	to	0.7
1.6 t	ER2-E	ER2-010SV	0.137	to	0.0228	8.2	to	1.4
		ER2-016SV	0.0877	to	0.0146	5.3	to	0.9
2 t	ER2-E	ER2-020LV	0.0714	to	0.0119	4.3	to	0.7
		ER2-020SV	0.136	to	0.0226	8.2	to	1.4
2.5 t	ER2-F	ER2-025SV	0.111	to	0.0184	6.6	to	1.1
3.2 t	ER2-E	ER2-032SV	0.0861	to	0.0143	5.2	to	0.9
5 t	ER2-F	ER2-050SV	0.0553	to	0.0092	3.3	to	0.6

*Note that lifting speed may be changed if a magnet is put closer to the push button unit.

Operating Method

As shown in the figure below, the lifting/lowering speed changes smoothly depending on the depression of the push button.

The maximum depression of the push button is approx. 6.5 mm; the lifting/lowering speed increases higher as the push button is pressed deeper.



⚠ CAUTION



Prohibited

- The lifting speed of the step-less switch has been set to the speed ratio of 6:1. (Maximum speed 6 times higher than minimum speed)
Never re-set it to the speed ratio higher than 6:1.

Failure to comply with this instruction causes bodily injury or loss of property.

Maintenance

Carry out frequent and periodic inspections based on the following inspection list.

For inspection of other than this product, see “ER2 Series Electric Chain Hoist (125 kg to 5 t), Parts List” (separately provided).

Step-less Switch Inspection List

Item	Inspection		Check method	Criteria	When out of specification
	Frequent	Periodic			
Appearance	○	○	Visual check	No damage, deformation or corrosion	Replace the relevant part.
Screws		○	Visual check	No loose bolts or nuts	Tighten securely.
Variable speed operation	○	○	Switch operation	The speed should change steplessly according to the depression of the push button.	Replace the special-purpose step-less switch parts.

Parts List

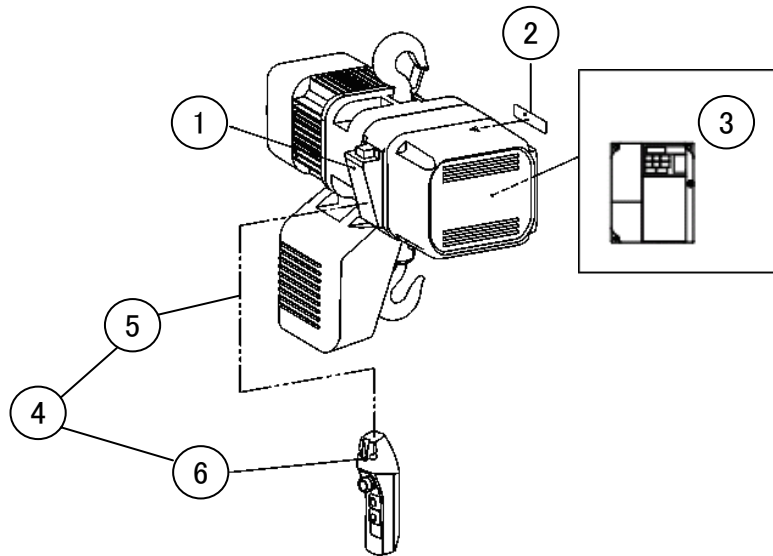


Fig. No.	Part No.	Part name	Q'ty per unit	Part code					Remark
				ER2-001HV ER2-003SV	ER2-003HV ER2-005LV ER2-005SV	ER2-010LV	ER2-010SV ER2-016SV ER2-020LV	ER2-020SV ER2-025SV ER2-032SV ER2-050SV	
1	556	C operation harness	1	ER2BX9556	←	ER2DX9556	←	←	
2	818	Identification label M	1	ER2BX9818	←	←	←	←	
3	1571M	Inverter (VFD) assembly	1	INV60FC21M	INV615C21M	←	INV622C21M	INV637C21M	230V Class
				INV60FY21M	INV615Y21M	←	INV622Y21M	INV637Y21M	400V Class
4	1557	3 push button cord 7C complete set	1	ZBM0025F1000	←	←	←	←	Push button built in the variable speed unit
5	557	Push button cord 7C	1	Z3CR701	←	←	←	←	
6	1561	3 push button switch MV assembly	1	SWDB400AC	←	←	←	←	

For information on standard ER2 electric chain hoist parts, refer to “ER2 Series Electric Chain Hoist (125kg to 5t) Parts List (separate document).

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URL. <http://www.kito.co.jp>