



제 CG-2014-1780 호

안 전 인 증 서

(사업장명) KITO CORP.

(소재지) 2000, TSUJIMARAI SHOWA-CHO, NAKAKOMAGUN YAMANASHI,
409-3853 JAPAN

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

_____ 품 목 : 호이스트 _____
형식(용량): KD-ER2-025(2.5 ton) _____
인증번호 : 14-CG2AC-1780 _____
인증기준 : 위험기계·기구 의무안전인증기준 _____
(고용노동부고시 제2012-33호)
_____ 인증조건 : 산업안전보건법 "제34조 준수" _____

2014년 08월 28일

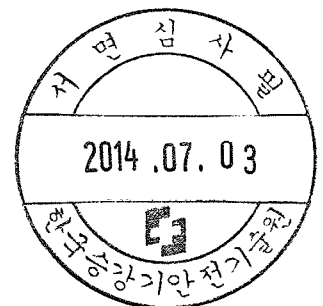
한국승강기안전기술원 이사장



【별지 제4호서식】

동 일 형 식 일 람 표

사업장명	KITO CORP.		개정일자 및 번호	2014.06.20	인증번호	
형식 및 모델번호		동일형식 항목 및 내역			비고	
형식번호	모델번호	동일형식 항목1	동일형식 항목2	동일형식 항목3		
KD-ER2-025	KITO-ER2D025S-S	Lift max 30m 권상모타 3.5kW .S : 6.8m/min .IS: 6.6/1.1m/min Inverter control	횡행모터 0.4kWx2 .S : 24m/min .L: 12m/min .IS:24/4m/min .IL:12/2m/min	전기Trolley 결합 type		
	KITO-ER2D025S-L					
	KITO-ER2D025S-IS					
	KITO-ER2D025S-IL					
	KITO-ER2D025IS-S					
	KITO-ER2D025IS-L					
	KITO-ER2D025IS-IS					
	KITO-ER2D025IS-IL					
	KITO-C-ER2D025S-S					
	KITO-C-ER2D025S-L					
	KITO-C-ER2D025S-IS					
	KITO-C-ER2D025S-IL					
	KITO-C-ER2D025IS-S					
	KITO-C-ER2D025IS-L					
	KITO-C-ER2D025IS-IS					
KITO-C-ER2D025IS-IL						
				전기Trolley 결합 Clean type		



제 2012-BJ-0009 호



안 전 인 증 서

정호엔지니어링

경기도 광명시 노온사동 440-5

위 사업장에서 제조하는 아래의 품목이 산업안전보건법 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

양중기용 과부하방지장치

형식·모델/용량·등급/인증번호

형식·모델
JDL-100

용량·등급
J-2

인증번호
12-AV2BJ-0009

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2010-36호)

인 증 조 건

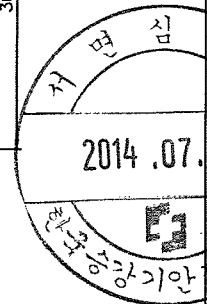
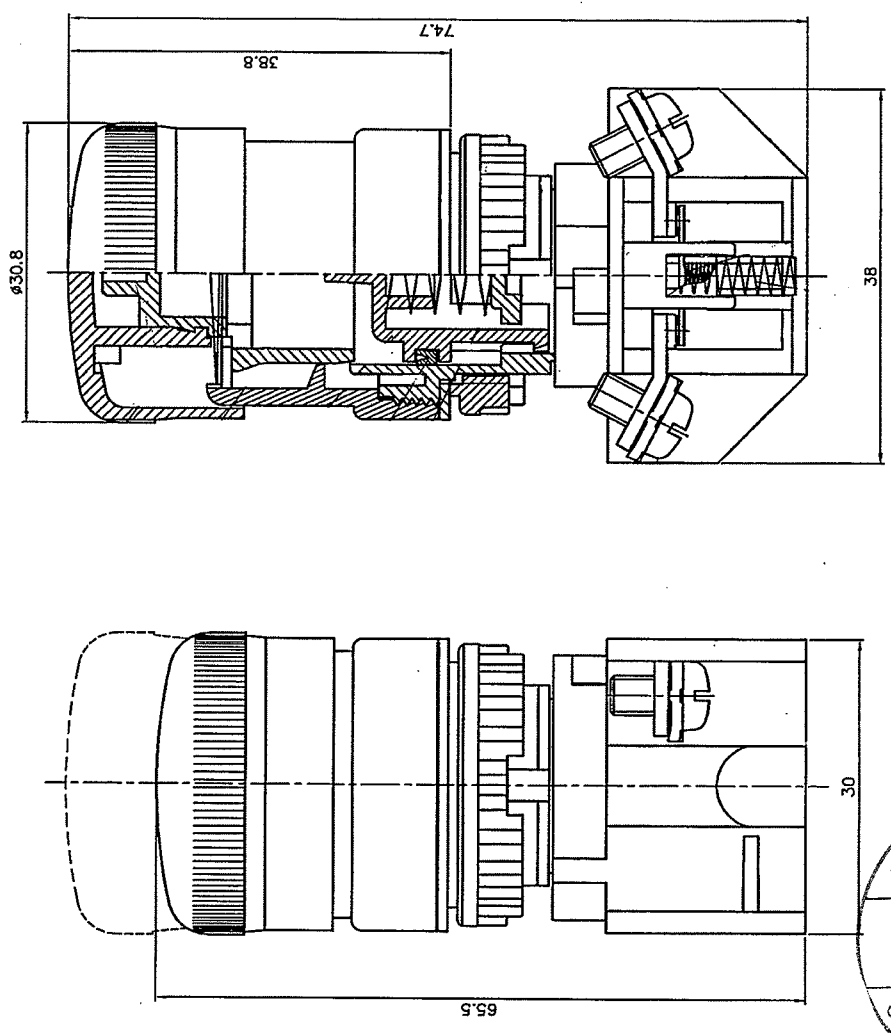
아래 주소에서 생산되는 제품에 한함.

정호엔지니어링, 경기도 광명시 노온사동 440-5

2012년 06월 11일

한국산업안전보건공단 이사장





一般公差	1:0.1~0.3mm: ±0.2	30.1~60mm: ±0.3	60.1~300mm: ±0.5	模具材質	研發部 95.05.24 劉成茂	模具處理	研發部 95.05.24 周欽祥	視孔數	研發部 95.05.24 吳宗達	單位	mm	材質	T2-BKH
天得科技股份有限公司 TEND TECHNOLOGY CO., LTD.	品保部 95.05.24 徐建宏	品保	品保	核准	研發部 95.05.24 劉成茂	核對	研發部 95.05.24 周欽祥	繪圖	研發部 95.05.24 吳宗達	比例	2:1	表面處理	T2 BKH 連續開關
										投影法	第一角	顏色	

圖號: T2-BKH

品名: T2 BKH 連續開關

單位: mm

比例: 2:1

投影法: 第一角

視孔數

模具處理

研發部
95.05.24
劉成茂

核對

研發部
95.05.24
周欽祥

繪圖

研發部
95.05.24
吳宗達

單位

材質

T2-BKH

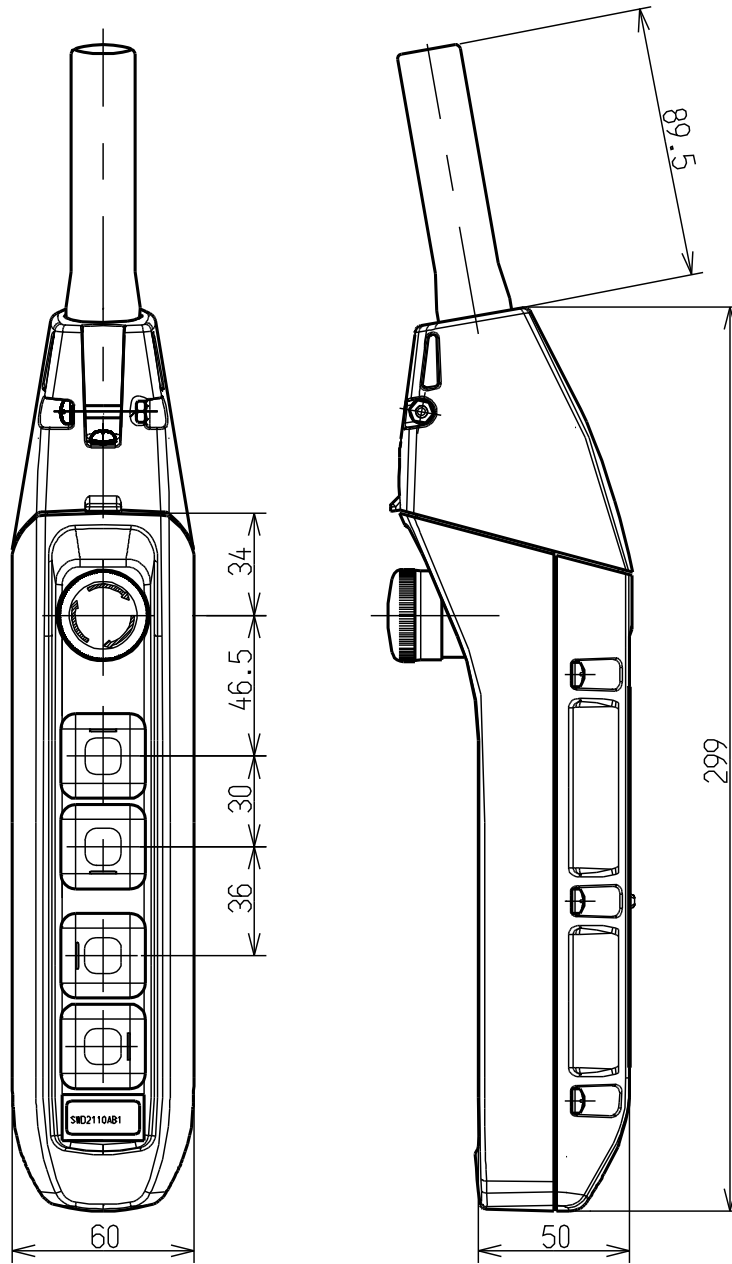
品名



T2 BKH 連續開關

圖號: T2-BKH

2/12/BKH/T2-BKH.dwg

Revision	Incidence	Description	Date	Charge	Approved



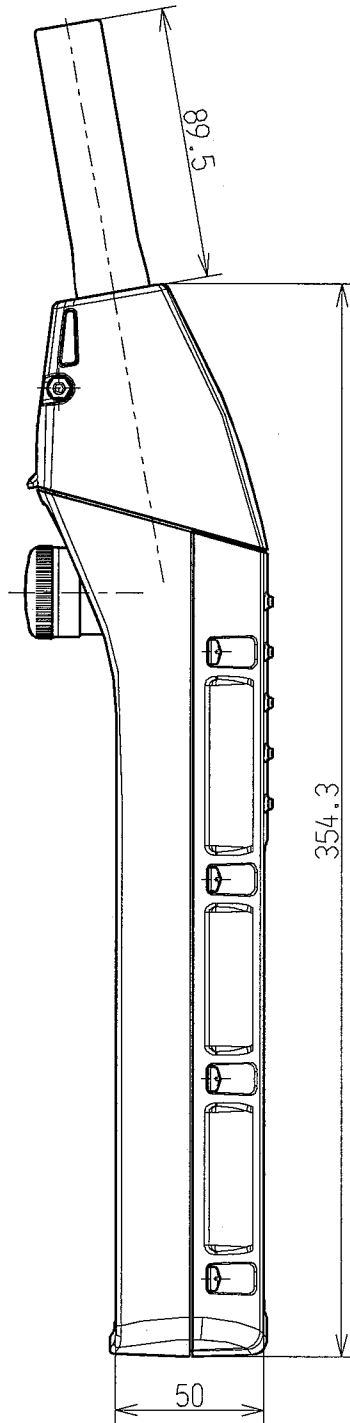
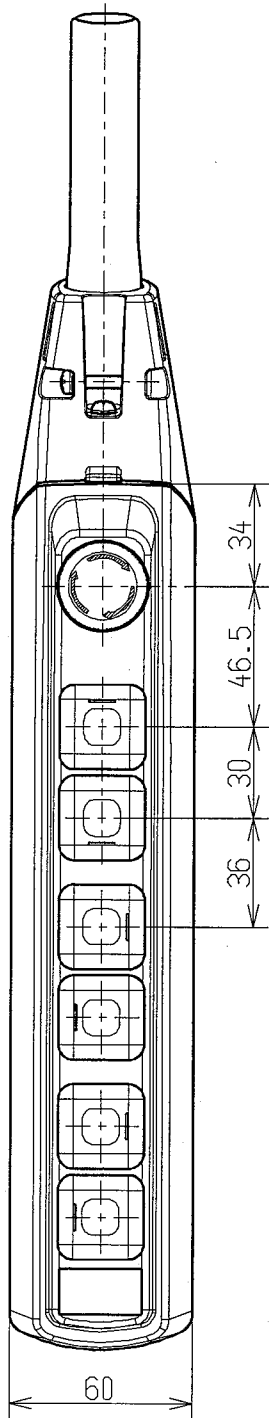
The lifting and lowering push buttons are marked with  for single speed or  for dual speed.
 The traveling push buttons are marked with E W or N S depending on the installed direction.

⑥
⑤
④
③
②
①
Date issued

NOTE							DWG. NO.	SWD2XX0AA1					
APPROVED	H. FURIYA	CHECKED	T. HATANO	DESIGNED	KOBAYASHI	DRAWN	KOBAYASHI	SCALE	-	NOS./UNIT	MATERIAL	NAME	CODE
	09.04.21		09.04.21		09.04.21		09.04.21					5point Pendant control station MX subassembly	

Revision	Incidence	Description	Date	Change	Approved

E
W
S
N



NOTE

APPROVED	ISHIKAWA	CHECKED	FURUYA	DESIGNED	KOBAYASHI	DRAWN	KOBAYASHI	SCALE	-	DWG. NO.	SWD2XXXAA1	
Date issued	08.02.08		08.02.08		08.02.08		08.02.08			DWG. NO. / UNIT MATERIAL	NAME	CODE
											7point Pendant control station MXXX subassembly	

LOAD SUMMARY 1 (ER2-025IS-IL/IS)

*POWER SOURCE : AC 3Φ 220(208)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	3.5KW x 4P	0.4KW x 4P x 2SET	
FULL LOAD CURRENT	18.7 (A)	6 (A)	0.5 (A)

*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

*** NOMAL 전류값 ***

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 25.2 A

*** PEAK 전류값 ***

K= NOMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 * K = 25.2 * 1.25 = 31.5 A

*POWER SOURCE : AC 3Φ 380(440)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	3.5KW x 4P	0.4KW x 4P x 2SET	
FULL LOAD CURRENT	9.2 (A)	5 (A)	0.5 (A)

*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

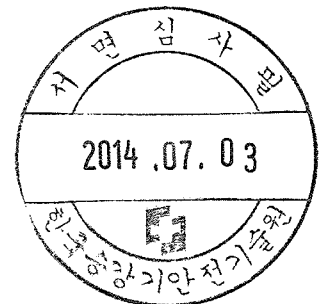
*** NOMAL 전류값 ***

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 14.7 A

*** PEAK 전류값 ***

K= NOMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 * K = 14.7 * 1.25 = 18.3 A



LOAD SUMMARY 2 (ER2-025IS-L/S)

*POWER SOURCE : AC 3Φ 220(208)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	3.5KW x 4P	0.4KW x 4P x 2SET	
FULL LOAD CURRENT	18.7 (A)	6 (A)	0.5 (A)

*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

*** NOMAL 전류값 ***

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 25.2 A

*** PEAK 전류값 ***

K= NOMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 * K = 25.2 * 1.25 = 31.5 A

*POWER SOURCE : AC 3Φ 380(440)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	3.5KW x 4P	0.4KW x 4P x 2SET	
FULL LOAD CURRENT	9.2 (A)	4.4 (A)	0.5 (A)

*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

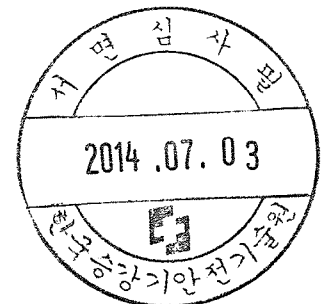
*** NOMAL 전류값 ***

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 14.1 A

*** PEAK 전류값 ***

K= NOMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 * K = 14.1 * 1.25 = 17.6 A



LOAD SUMMARY 3 (ER2-025S-IL/IS)

*POWER SOURCE : AC 3Φ 220(208)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	3.5KW x 4P	0.4KW x 4P x 2SET	
FULL LOAD CURRENT	16.9 (A)	6 (A)	0.5 (A)

*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

*** NOMAL 전류값 ***

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 23.4 A

*** PEAK 전류값 ***

K= NAMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 * K = 23.4 * 1.25 = 29.2 A

*POWER SOURCE : AC 3Φ 380(440)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	3.5KW x 4P	0.4KW x 4P x 2SET	
FULL LOAD CURRENT	8.7 (A)	5 (A)	0.5 (A)

*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

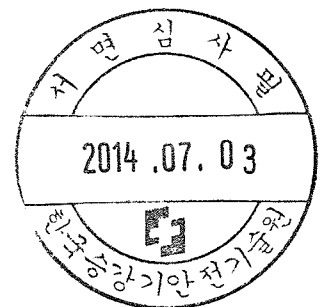
*** NOMAL 전류값 ***

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 14.2 A

*** PEAK 전류값 ***

K= NAMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 * K = 14.2 * 1.25 = 17.7 A



LOAD SUMMARY 4 (ER2-025S-L/S)

*POWER SOURCE : AC 3Φ 220(208)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	3.5KW x 4P	0.4KW x 4P x 2SET	
FULL LOAD CURRENT	16.9 (A)	6 (A)	0.5 (A)

*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

*** NOMAL 전류값 ***

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 23.4 A

*** PEAK 전류값 ***

K= NAMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 * K = 23.4 * 1.25 = 29.2 A

*POWER SOURCE : AC 3Φ 380(440)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	3.5KW x 4P	0.4KW x 4P x 2SET	
FULL LOAD CURRENT	8.7 (A)	4.4 (A)	0.5 (A)

*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

*** NOMAL 전류값 ***

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 13.6 A




*** PEAK 전류값 ***

K= NAMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용





NOMAL 전류값 * K = 13.6 * 1.25 = 17 A






ROTATING MACHINE

-  SYNCHRONOUS GENERATOR, 3-PHASE
-  AC INDUCTION MOTOR, 3-PHASE
- * N : NORMAL DUTY
- * S : STAND-BY
-  DC MOTOR






LIGHTNING ARRESTERS

-  LA : LIGHTNING ARRESTER
-  SA : SURGE ARRESTER
-  SS : SURGE SUPPRESSOR
-  DISCHARGE COUNTER





INSTRUMENT TRANSFORMERS










-  CURRENT TRANSFORMER
-  ZERO PHASE CURRENT TRANSFORMER
-  POTENTIAL TRANSFORMER

CIRCUIT BREAKERS






-  POWER CIRCUIT BREAKER, FIXED TYPE
-  GCB : SF6 GAS CIRCUIT BREAKER
-  VCB : VACUUM CIRCUIT BREAKER
-  ACB : AIR CIRCUIT BREAKER
-  POWER CIRCUIT BREAKER, DRAWOUT TYPE

SWITCHES













-  DISCONNECTOR SWITCH, SINGLE THROW MANUALLY OPERATED
-  LOAD BREAK SWITCH, SINGLE THROW MANUALLY OPERATED
-  EARTHING SWITCH, SINGLE THROW MANUALLY OPERATED
-  DISCONNECTOR SWITCH, SINGLE THROW MOTOR OPERATED
-  EARTHING SWITCH, SINGLE THROW MOTOR OPERATED
-  VACUUM CIRCUIT SWITCH
-  FUSED DISCONNECTOR SWITCH
-  FUSE-SWITCH
-  LIMIT SWITCH (MAKE CONTACT)
-  LIMIT SWITCH (BREAK CONTACT)
-  PUSH BUTTON, NORMALLY OPEN MOMENTARY CONTACT
-  PUSH BUTTON, NORMALLY CLOSED MOMENTARY CONTACT
-  PUSH BUTTON, NORMALLY OPEN PUSH TO LOCK, RELEASED BY KEY
-  MANUAL SELECTOR SWITCH (LOCKED)

-  CIRCUIT BREAKER, FIXED TYPE
-  MCCB : MOLDED CASE CIRCUIT BREAKER
-  MCB : MINIATURE CIRCUIT BREAKER
-  CIRCUIT BREAKER, DRAWOUT TYPE
-  WITHDRAWABLE INTERCONNECTOR
-  CIRCUIT BREAKER, MANUALLY OPERATED FIXED TYPE WITH THERMAL & MAGNETIC TRIP
-  CIRCUIT BREAKER, MANUALLY OPERATED FIXED TYPE WITH MAGNETIC TRIP ONLY
-  CIRCUIT BREAKER, MANUALLY OPERATED DRAWOUT TYPE WITH THERMAL & MAGNETIC TRIP
-  CIRCUIT BREAKER, MANUALLY OPERATED FIXED TYPE WITH THERMAL & MAGNETIC TRIP AND RESIDUAL CURRENT RELEASE

CONTACTORS AND STARTERS

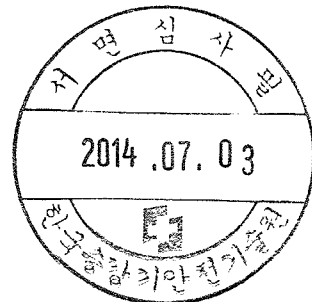
-  AUX. CONTACT, NORMALLY OPEN WHEN MAIN SWITCHING DEVICE IS DE-ENERGIZED
-  AUX. CONTACT, NORMALLY CLOSED WHEN MAIN SWITCHING DEVICE IS DE-ENERGIZED
-  MAGNETIC CONTACTOR, ELECTRICALLY OPERATED
-  COMBINATION STARTER, FULL VOLTAGE, NON-REVERSING, DRAWOUT TYPE, WITH ELECTRICALLY OPERATED CONTACTORS, WITH MAGNETIC MOTOR CIRCUIT BREAKER, BUILT IN ELECTRONIC OVER-CURRENT RELAY WITH ADJUSTABLE TRIP RATING
-  COMBINATION STARTER, FULL VOLTAGE, NON-REVERSING, FIXED TYPE, WITH ELECTRICALLY OPERATED CONTACTORS, WITH MAGNETIC MOTOR CIRCUIT BREAKER, BUILT IN THERMAL OVER-CURRENT RELAY WITH ADJUSTABLE TRIP RATING

GRAPHIC SYMBOLS

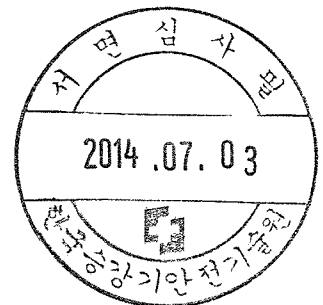
-  GENERAL OPERATING COIL
-  CAPACITOR
-  CAPACITOR VOLTAGE TRANSFORMER(CVT)
-  RESISTOR
-  DIODE
-  BUS DUCT
-  SPB : SEGREGATED PHASE BUS DUCT
-  IPB : ISOLATED PHASE BUS DUCT
-  CABLE HEAD AND CABLE CONNECTION
-  AMMETER SWITCH
-  VOLTMETER SWITCH
-  SIGNAL LAMP
- * Y = YELLOW
- * R = RED
- * G = GREEN
- * W = WHITE
- * A = AMBER
- * C = CYAN

SYMBOL LIST

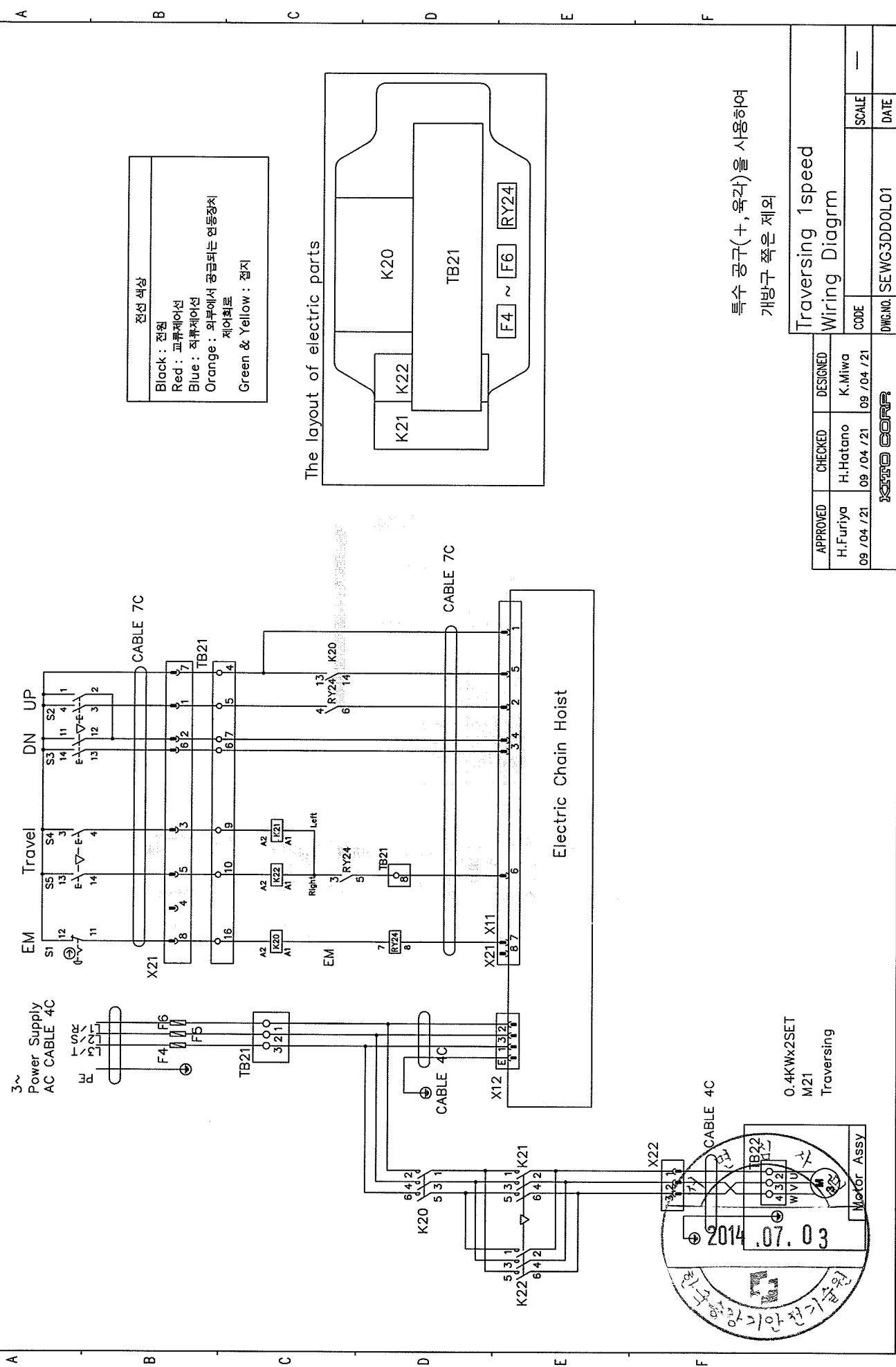
APPROVED	CHECKED	DESIGNED	CODE	SCALE
KOTO CORP.			DWG. NO.	DATE



. 1속형 hoisting/. 1속형 traversing



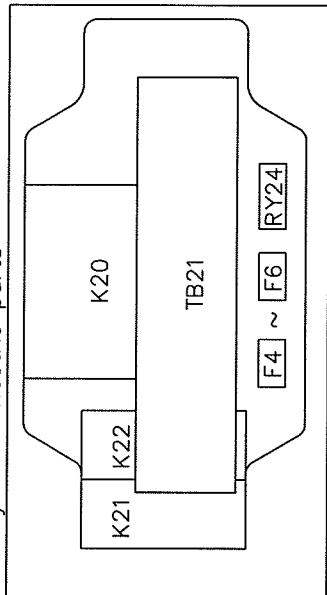
10 9 8 7 6 5 4 3 2 1



전선 색상

Black : 전철
Red : 교류제어선
Blue : 직류제어선
Orange : 외부에서 공급되는 연동장치 제어회로
Green & Yellow : 접지

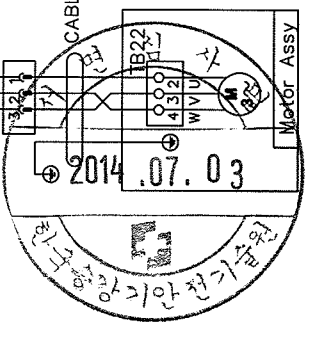
The layout of electric parts

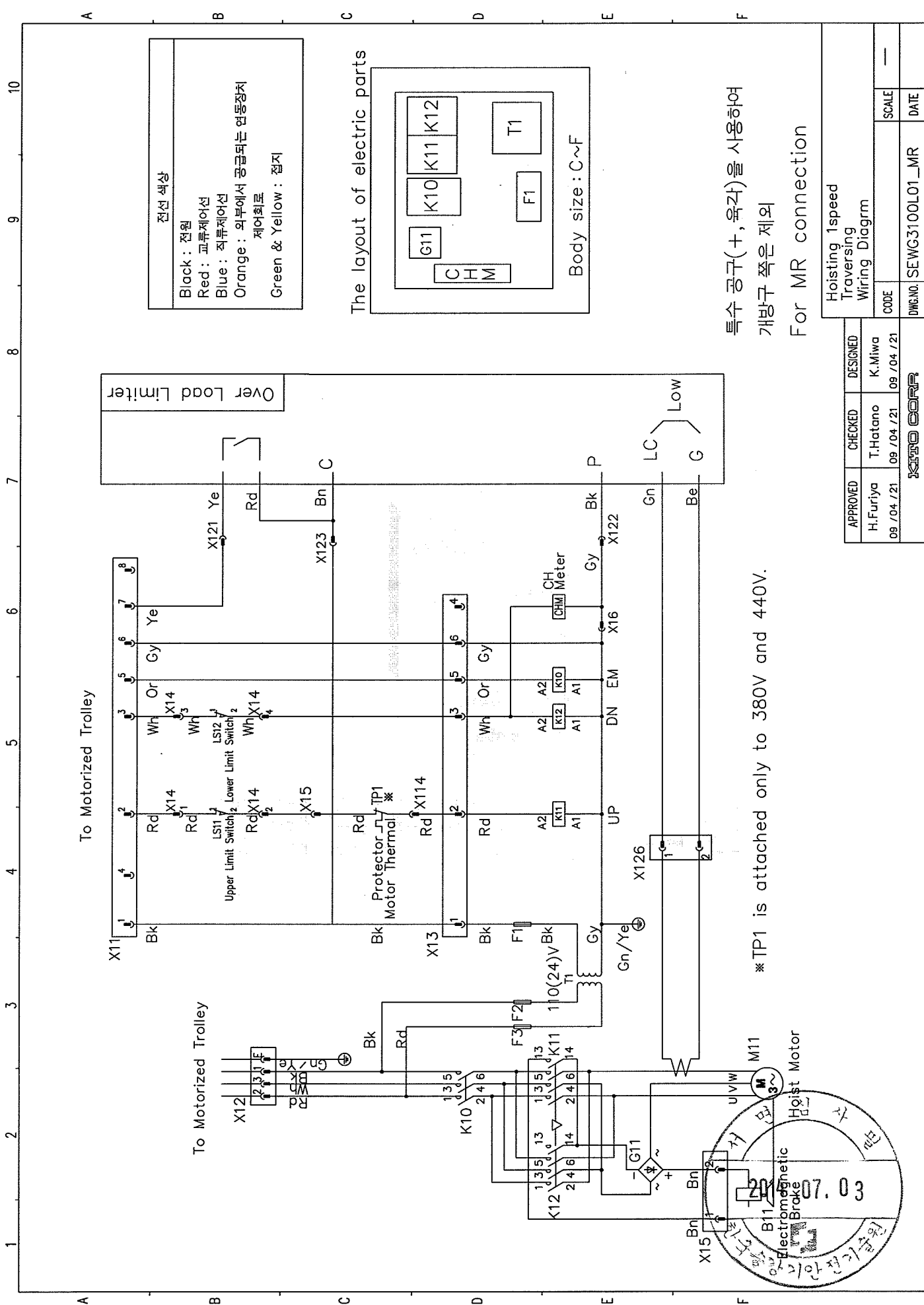


특수 공구(+, 육각)을 사용하여
개방구 쪽은 제외

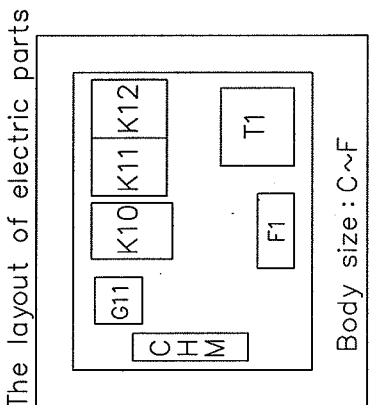
APPROVED		CHECKED		DESIGNED	
H.Furiya		H.Hatano		K.Miwa	
09 /04 /21		09 /04 /21		09 /04 /21	
KATO CORP					
Traversing 1speed Wiring Diagram				CODE	SCALE
DWG.NO. SEWG3DD0L01				DATE	—

UNIT : mm





전선 색상
 Black : 전원
 Red : 교류제어선
 Blue : 직류제어선
 Orange : 외부에서 공급되는 연동장치 제어회로
 Green & Yellow : 접지

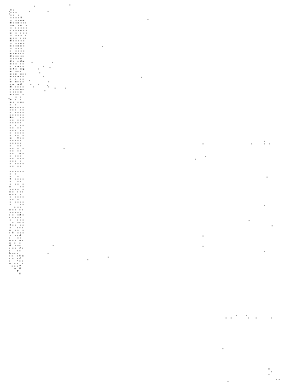


특수 공구(+, 육각)를 사용하여
 개방구 쪽은 제외
 For MR connection

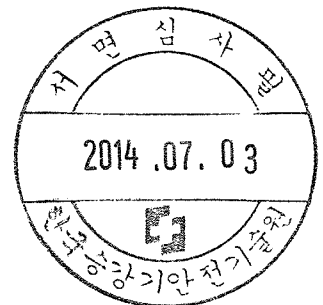
APPROVED	CHECKED	DESIGNED	Hoisting 1speed Traversing Wiring Diagram	
H.Furiya	T.Hatano	K.Miwa	CODE	SCALE
09 / 04 / 21	09 / 04 / 21	09 / 04 / 21	DWG.NO. SEWG3100L01_MR	DATE
KATO CORP.				

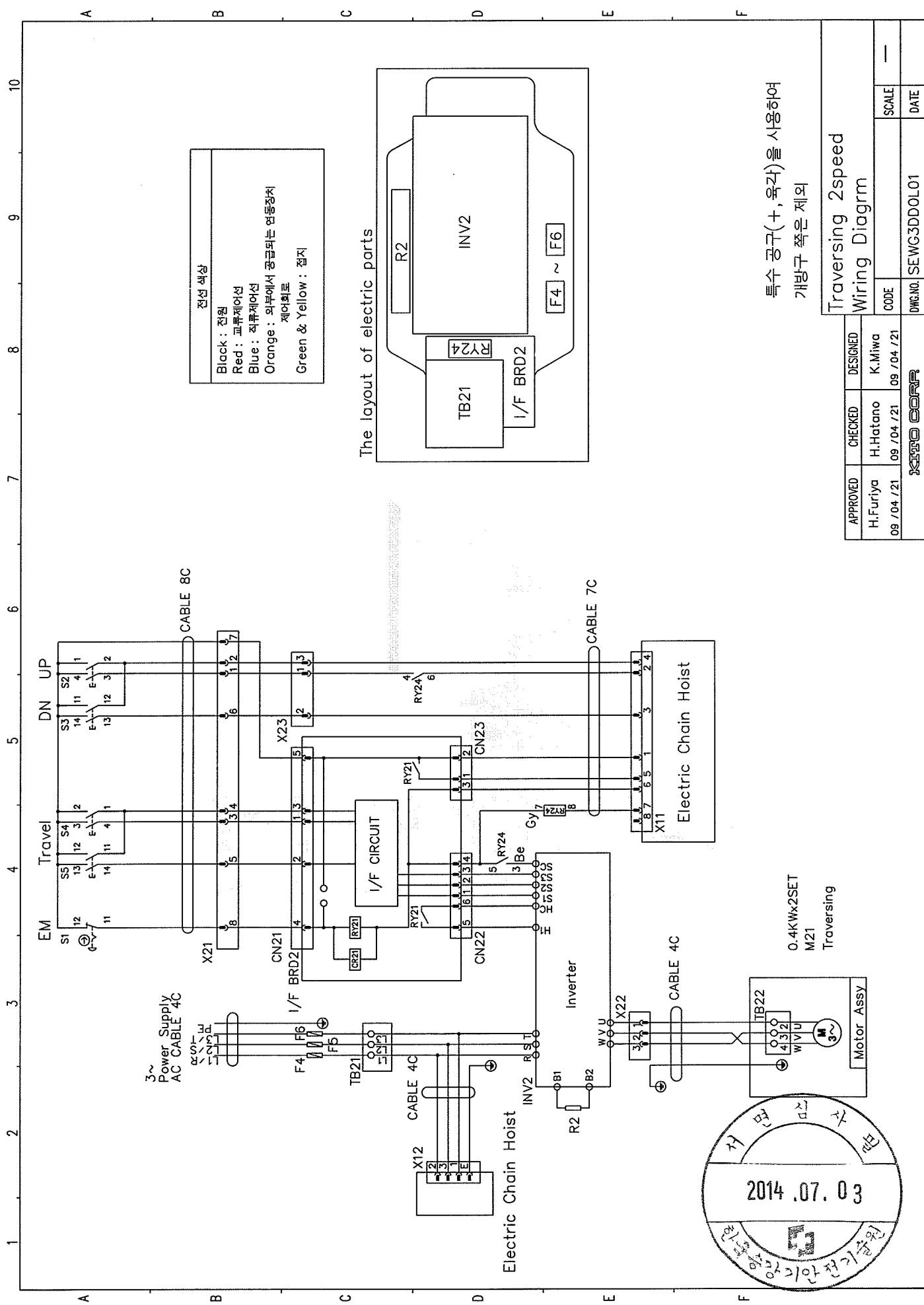
UNIT : mm

. 1속형 hoisting/. 2속형 traversing



Faint, illegible text or a very light diagram located in the lower middle section of the page.

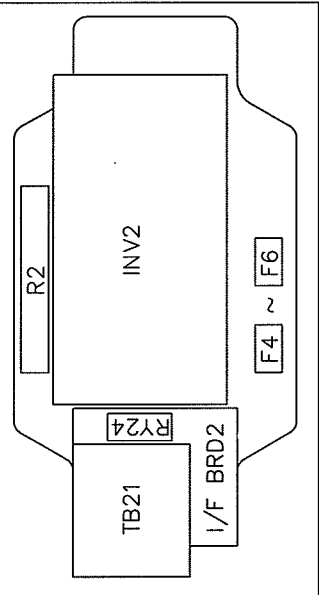




전선 색상

Black : 진철
 Red : 교류제어선
 Blue : 직류제어선
 Orange : 외부에서 공급되는 연동장치 제어회로
 Green & Yellow : 접지

The layout of electric parts

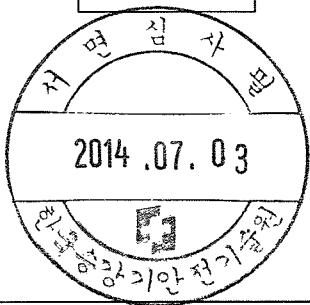


특수 공구(+, 육각)을 사용하여
 개방구 쪽은 제외

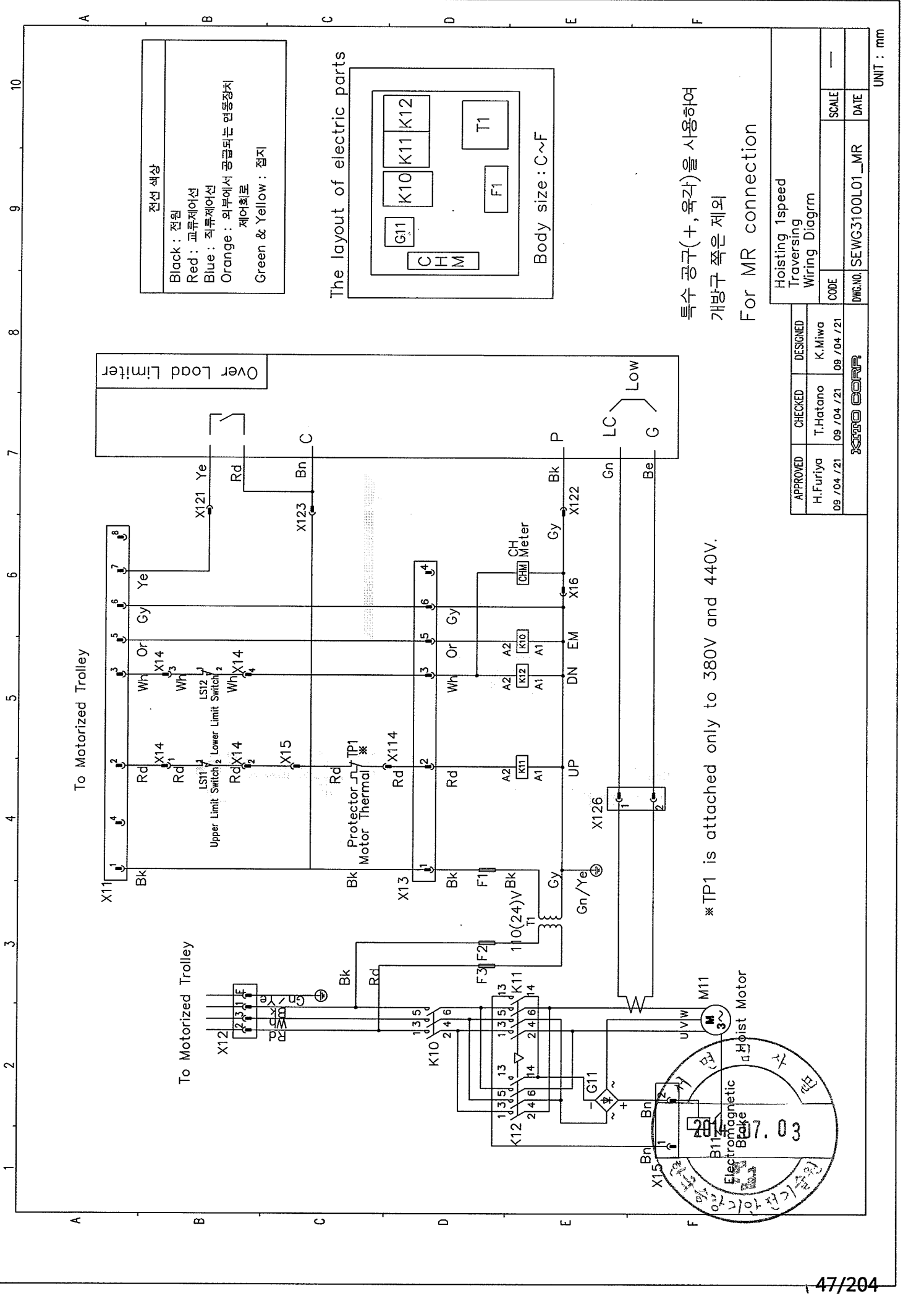
Traversing 2speed
 Wiring Diagram

APPROVED	CHECKED	DESIGNED
H.Furiya	H.Hatano	K.Miwa
09 / 04 / 21	09 / 04 / 21	09 / 04 / 21

CODE	SCALE	DATE
DWG.NO. SEWG3DD0L01	—	—



UNIT : mm

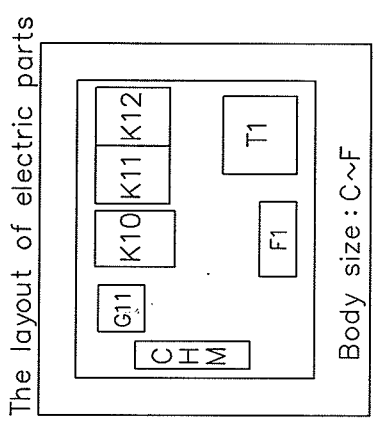


To Motorized Trolley

To Motorized Trolley

전선 색상

Black	: 전원
Red	: 교류제어선
Blue	: 직류제어선
Orange	: 외부에서 공급되는 연동장치 제어회로
Green & Yellow	: 접지



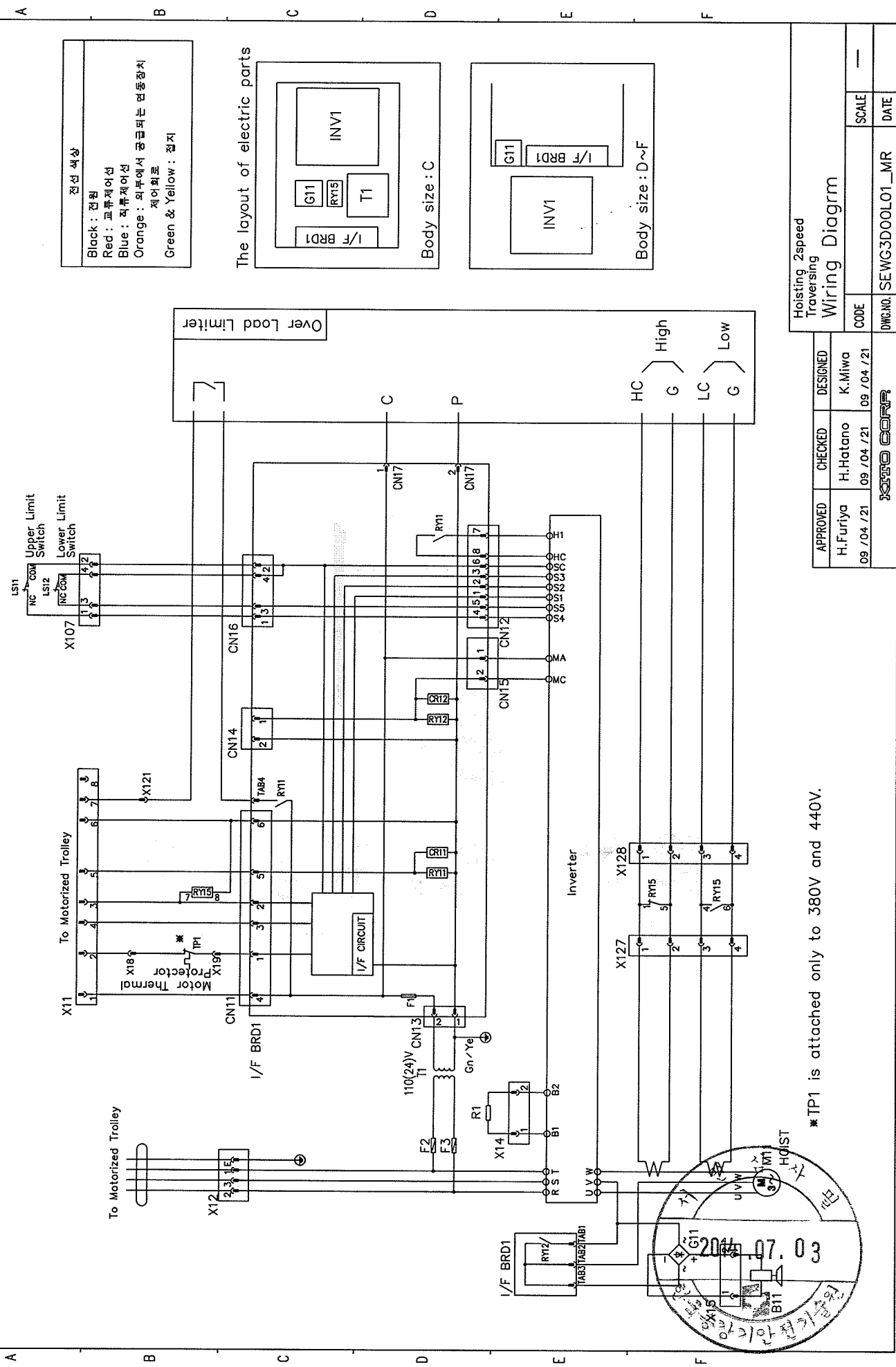
특수 공구(+, 육각)을 사용하여
개방구 쪽은 제외
For MR connection

* TP1 is attached only to 380V and 440V.

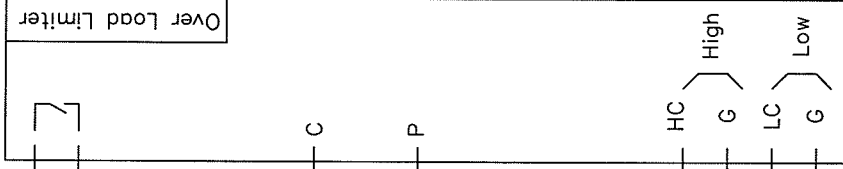
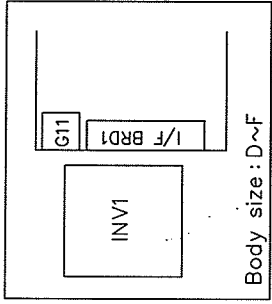
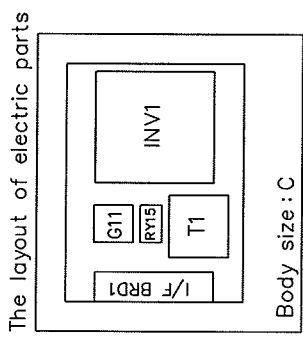
APPROVED	CHECKED	DESIGNED				
H.Furiya 09 /04 /21	T.Hatano 09 /04 /21	K.Miwa 09 /04 /21				
<table border="1"> <tr> <td>CODE</td> <td>SCALE</td> </tr> <tr> <td>DWG.NO. SEWG3100L01_MR</td> <td>DATE</td> </tr> </table>			CODE	SCALE	DWG.NO. SEWG3100L01_MR	DATE
CODE	SCALE					
DWG.NO. SEWG3100L01_MR	DATE					

UNIT : mm

10 9 8 7 6 5 4 3 2 1

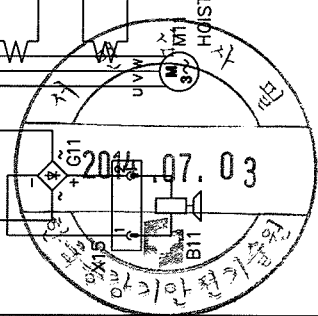


전선 색상
 Black : 전황
 Red : 과부제어선
 Blue : 작부제어선
 Orange : 외부에서 공급되는 연동장치 제어회로
 Green & Yellow : 접지



Hoisting 2speed Traversing		DESIGNED		DATE	
Wiring Diagram		K. Miwa		---	
APPROVED	CHECKED	DESIGNED	CODE	SCALE	DATE
H. Furiya	H. Hatano	K. Miwa	09 / 04 / 21	---	---
09 / 04 / 21	09 / 04 / 21	09 / 04 / 21	09 / 04 / 21	---	---
KOTO CORP					
DWG. NO. SEWC3D00L01_MR					

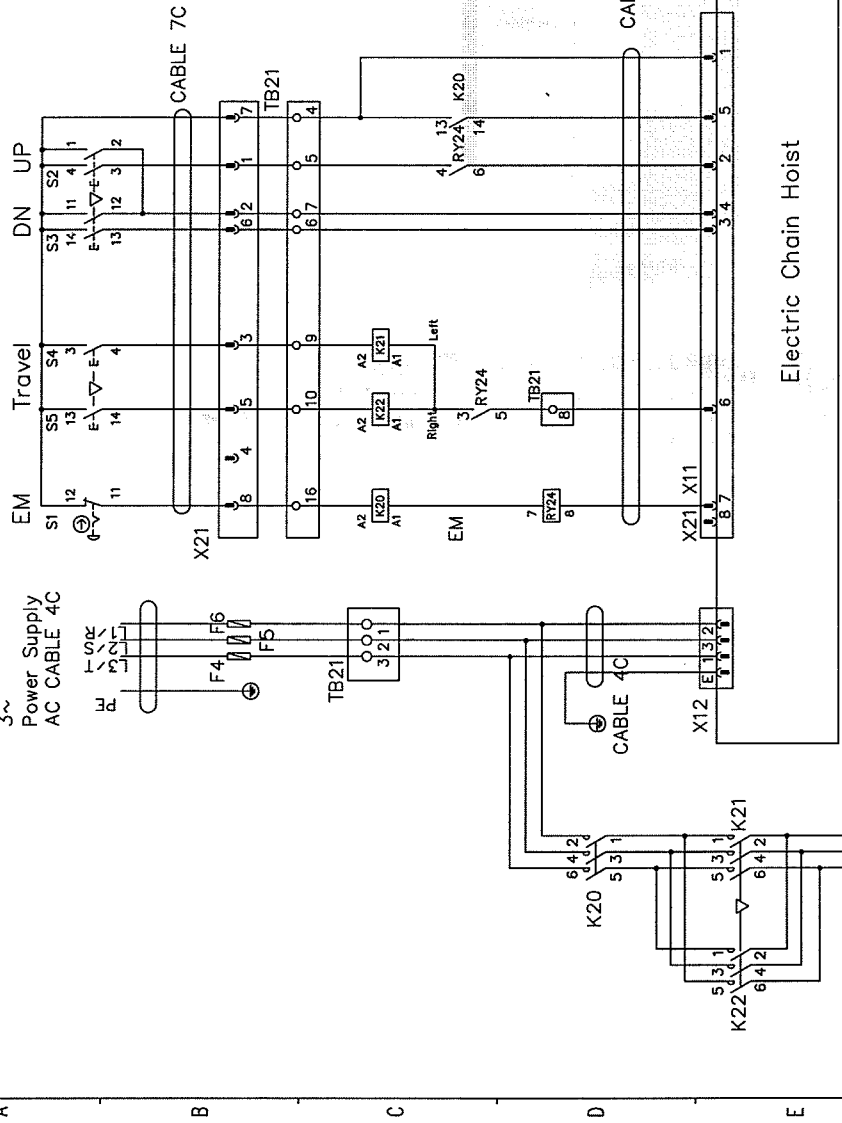
*TP1 is attached only to 380V and 440V.



10 9 8 7 6 5 4 3 2 1

A B C D E F

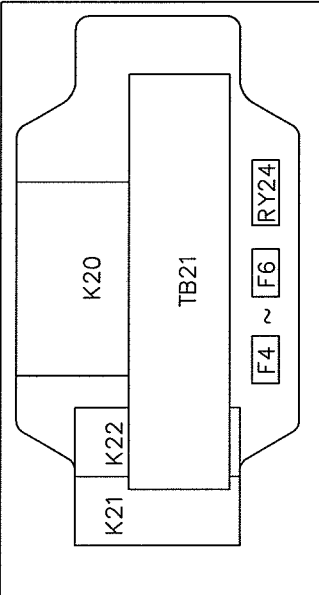
3~
Power Supply
AC CABLE 4C



전선 색상

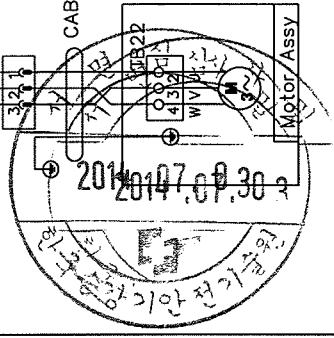
Black	: 전회
Red	: 과류제어선
Blue	: 직류제어선
Orange	: 외부에서 공급되는 연동장치 제어회로
Green & Yellow	: 접지

The layout of electric parts



특수 공구(+, 육각)를 사용하여
개방구 쪽은 제외

0.4KWx2SET
M21
Traversing



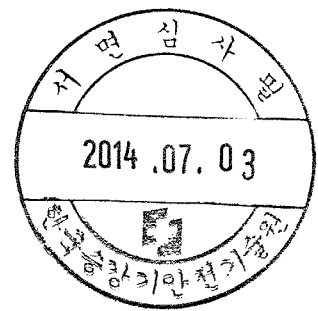
Traversing 1speed
Wiring Diagram

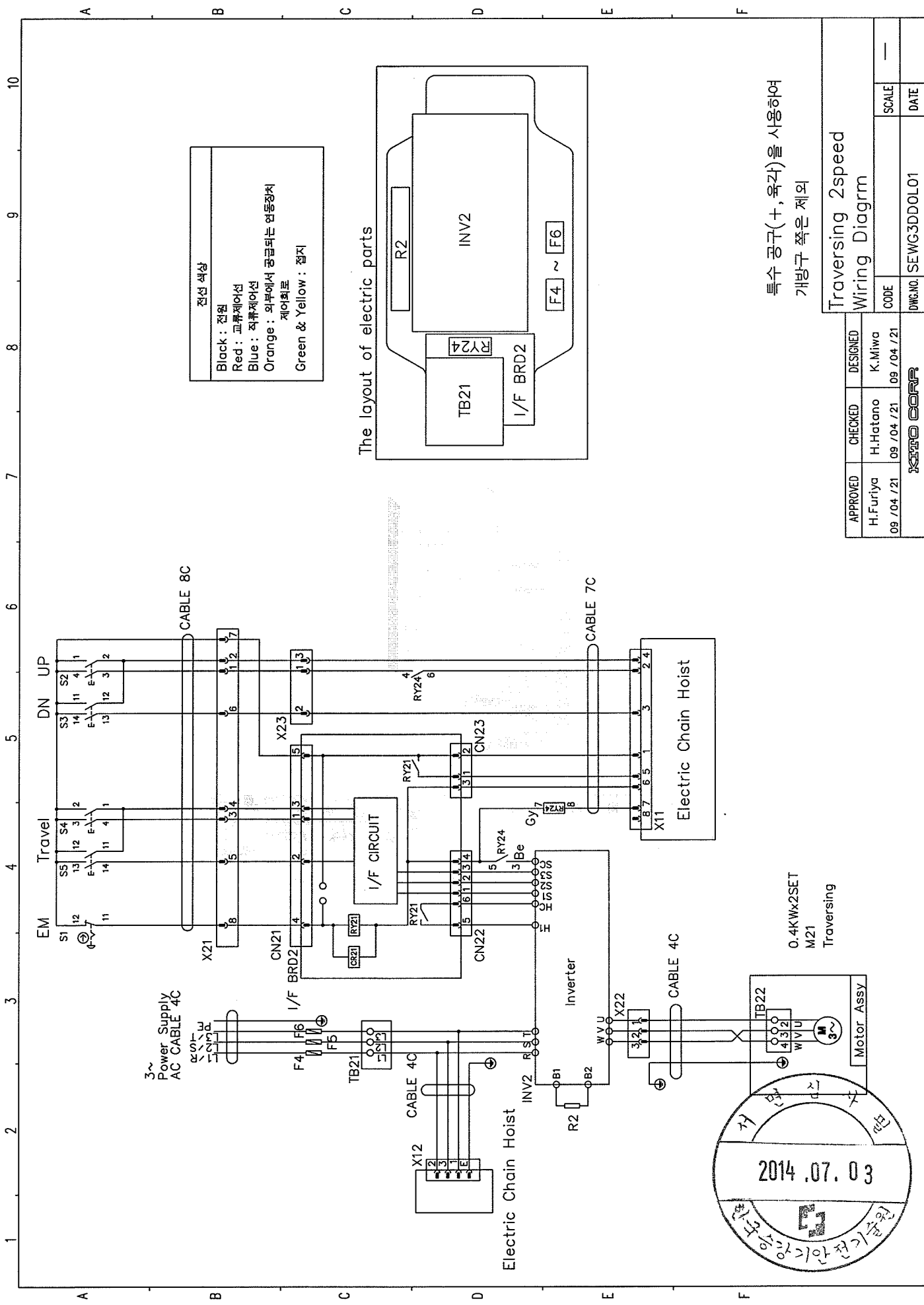
APPROVED	CHECKED	DESIGNED
H.Furiya	H.Hatano	K.Miwa
09./04./21	09./04./21	09./04./21

CODE	SCALE	DATE
DWG.NO. SEWG3DD0L01	---	---

UNIT : mm

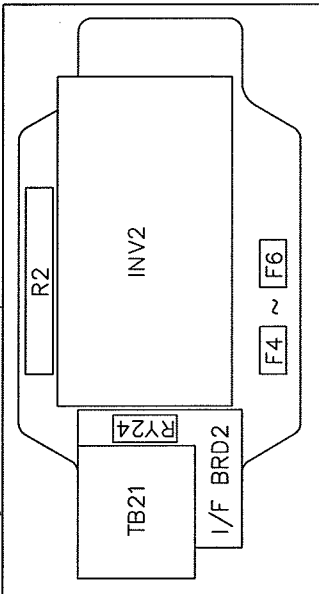
. 2속형 hoisting/. 2속형 traversing





전선 색상
 Black : 전원
 Red : 교류제어선
 Blue : 직류제어선
 Orange : 외부에서 공급되는 연동장치 제어회로
 Green & Yellow : 접지

The layout of electric parts



특수 공구(+, 육각)을 사용하여
 개방구 쪽은 제외

Traversing 2speed
 Wiring Diagram

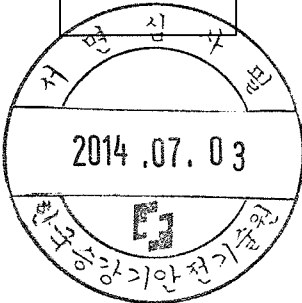
APPROVED	CHECKED	DESIGNED
H.Furiya	H.Hatano	K.Miwa
09 / 04 / 21	09 / 04 / 21	09 / 04 / 21

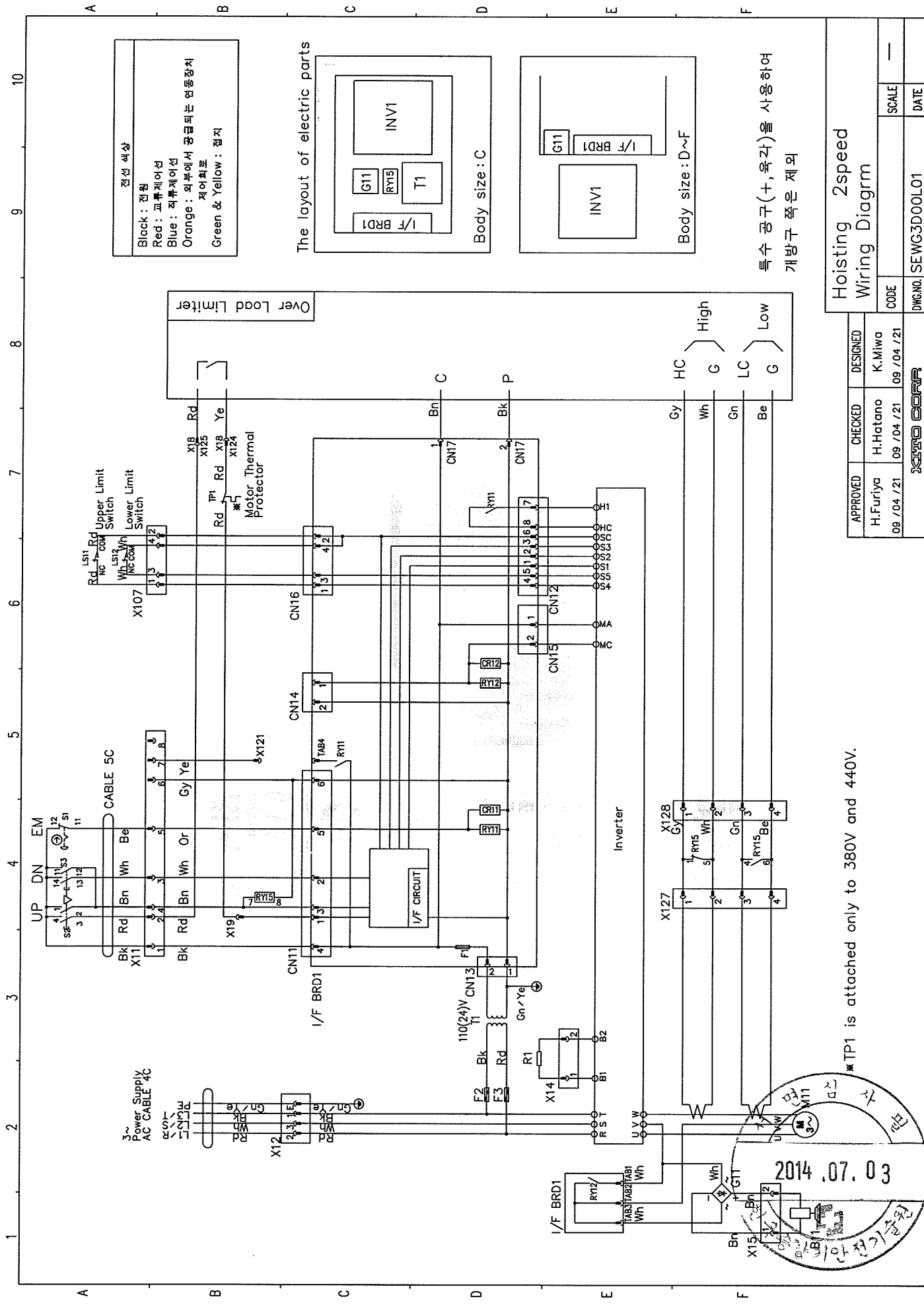
CODE	SCALE	DATE
—	—	—

YATO CORP

DWG.NO. SEWG3DD0L01

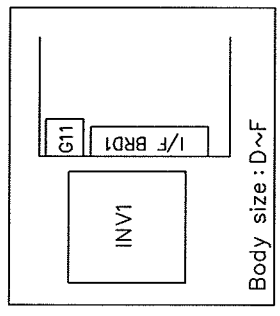
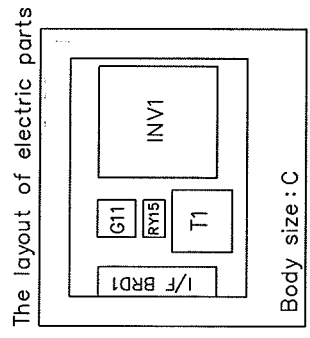
UNIT : mm





견선 색상

Black : 권선탄
Red : 교류제어선
Blue : 직류제어선
Orange : 외부에서 공급되는 연동장치 제어회선
Green & Yellow : 접지



특수 공구(+, 육각)를 사용하여
개방구 쪽은 제외

Hoisting 2speed Wiring Diagram

APPROVED	CHECKED	DESIGNED
H.Furiya	H.Hatano	K.Miwa
09 / 04 / 21	09 / 04 / 21	09 / 04 / 21

KOTO CORP

CODE	SCALE	DATE
DWG. NO. SEWG3D00L01	—	—

*TP1 is attached only to 380V and 440V.

UNIT : mm

CABLE 구성도 및 사양 - 권상 용량 3.5kw

CABLE SPECIFICATION FOR ER2M - 전동 트로리 타입

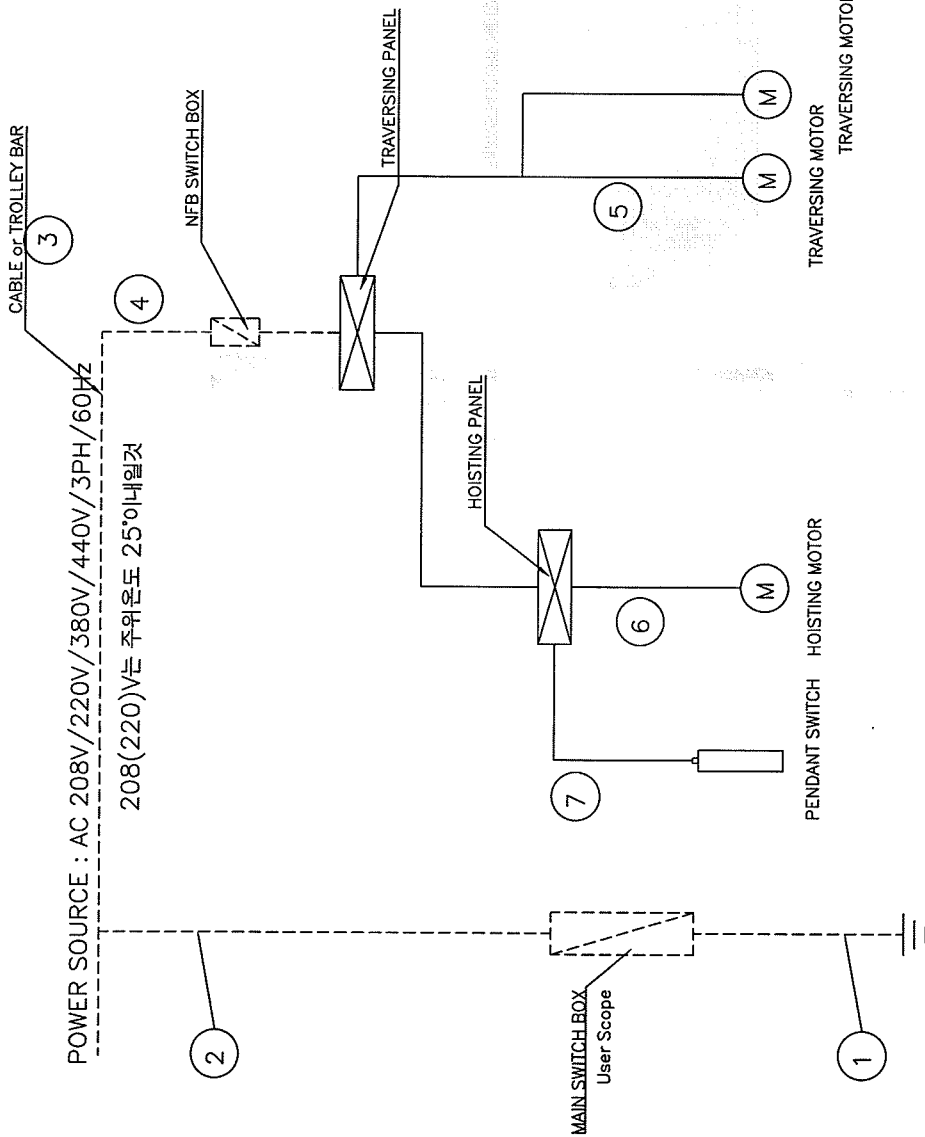
NO	ITEM	TYPE	ER2D-025S/IS	
			SIZE	
	Main Power Line	VCT	220(208)V	6sq x 4C
			380V, 440V	4sq x 4C
①	Power Line	VCT	220(208)V	3.5sq x 4C
			380V, 440V	3.5sq x 4C
②	Push Button Switch	VCT	1.25sq x 8C	
③	Loas Limit	VCT	0.75sq x 8C	
④	Power Line for ER	VCT	2sq x 4C	
⑤	Control Line for ER	VCT	1.25sq x 6C	
⑥	Traversing Motor With Earth	VCT	1.25sq x 4C	

(3Φ 220(208)V / 380V / 440V 60Hz)



POWER SOURCE : AC 208V/220V/380V/440V/3PH/60HZ

208(220)V는 주위온도 25°이내일것



접지설비 시공방법

- 전동기의 외함, 제어반 등은 접지를 해야 하며 그 접지 저항은 다음의 규정을 따른다

접지공사	
3중 접지공사	400V이하 100Ω이하
특3중 접지공사	400V이상 10Ω이하

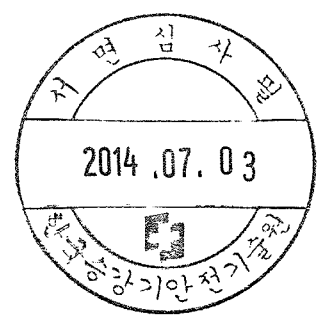
단, 방폭지역은 전압관계없이 10 Ω이하일것

- 접지선용 Trolley Duct 및 전선은 당해 전기기기, 기구에 대하여 충분한 용량과 전기적, 기계적인 강도를 가져야 함.
- 접지선이 외상을 받을 우려가 있는 경우는 전선관, 합성수지관 등과 함께 사용한다.
- 접지공사는 지표면에서 최저 75cm이상의 깊이에 접지봉을 박고 접지봉에는 접지동판을 연결한다.

CABLE 종류 및 굵기

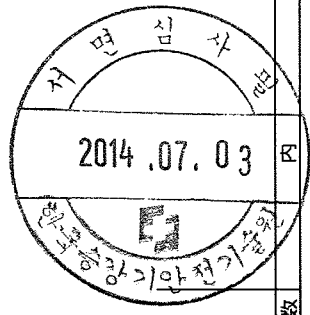
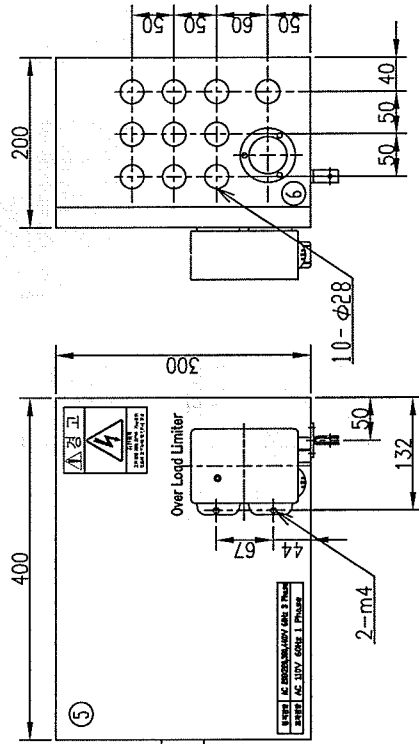
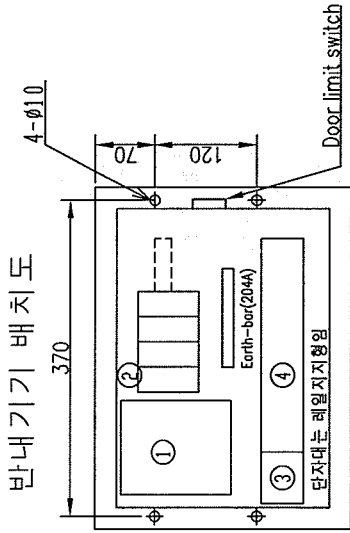
NO	FROM	CABLE SPEC.	Earth Cable
1	Main Earth Line	VCT 4(6)50x1C	User Scope(1Core)
2	Main Power Source	VCT 45Q x 4C	User Scope(1Core)
3	Trolley bar or Festoon cable	80A x 4P	User Scope(1Core)
4	Main Power Source	VCT 45Q x 4C	User Scope(1Core)
5	Traversing Motor	VCT1.25SQ x 6C	(G-1Core)
6	Hoist Motor	VCT 25Q x 4C	(G-1Core)
7	Push Button Switch	VCT 1.25SQ x 8C	(G-1Core)
8			

REV.	QTY	CONTENTS	DATE	DRAWN	APPROVED	DESIGNED	CHECKED	DRAWN	TITLE
									2.5t MOTORIZED-4점식 케이블 구성도 및 접지계통도
									MDL. 942513
									DWG. NO. 3NNU942513
									SCALE NOT
									REV. 0



압착단자는 전부 절연피복 부착타입을 사용할것

塗裝色 : 단색번호 5Y7/1 (메이커 표준색)
 設定機器 : 인버터



10	別加工普通許容差
9	JIS B0405 中級
8	製作數量
7	納期
6	工番
5	工番
4	工番
3	工番
2	工番
1	工番

機器番號	名稱	形式	メーカー	個數	備考
1	인버터	FRN1.5C1S-2J21	富士	1	
2	릴레이	HH54P-L (AC24V)	富士	4	
3	소켓	TP514X1	富士	4	
4	단자대	TX20 (4P)	春日	1式	커버부착형
5	단자대	TX10S (30P)	春日	1式	커버부착형
6	항	CH20-43A	日興	1	
7	Door limits switch	KH-9015-HL	KOIND		
8					
9					
10					

단자대 배열

TX20(4P)

R2 S2 T2 E

TX10S (30P)

UT VT WT E CM A X3 X3 T1 R1 DL TX RX DL UP UP

DN HI B A B A A T1 T1 R1 R1

Note

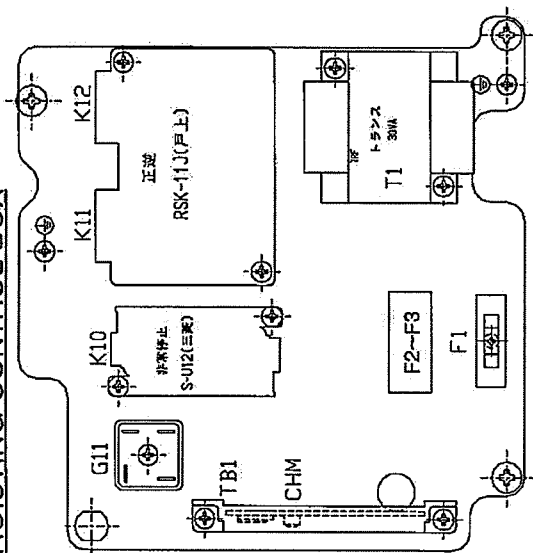
1) 외함 개방 시 충전 부분이 차단되도록 한다.

記	材	303910
事	質	-
承	名	セソソクハコ
認	稱	303910-35011
10.10.8	尺	NUT
10.10.8	度	
10.10.8	製	
10.10.8	圖	
10.10.8	檢	
10.10.8	査	
10.10.8	圖	
10.10.8	年	
10.10.8	月	
10.10.8	日	
10.10.8	設	
10.10.8	計	
10.10.8	承	
10.10.8	認	
10.10.8	容	
10.10.8	數	

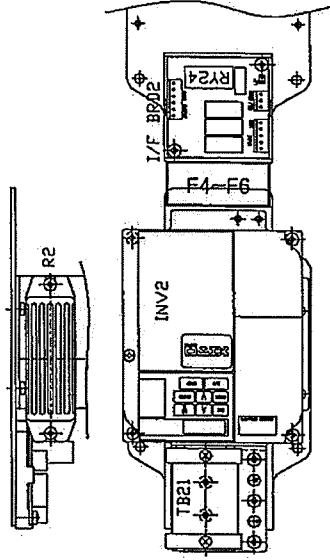
樣式 0250-06 三象法 單位: mm

호이스트 CONTROL BOX 배치도 (ER2 025 S-IL/IS)

HOISTING CONTROL BOX

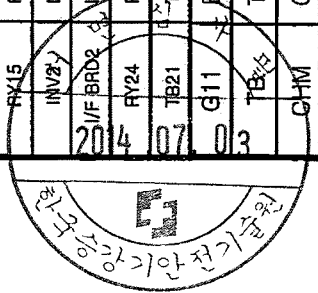


TRaversing CONTROL BOX



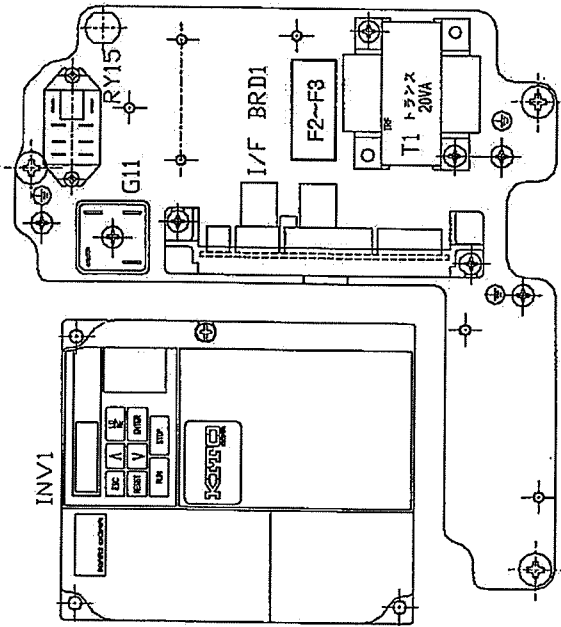
ENCLOSURE : HOIST BODY - IP55
PUSH BUTTON - IP65

MARK	DESCRIPTION	TYPE OF MODEL		Q'TY	MAKER	REMARKS
		220V	440V			
K10	MAGNET CONTACTOR	S-U12	S-U12	1	MITSUBISHI	EMERGENCY STOP
K11,K12	MAGNET CONTACTOR	RSK-11J-S95	RSK-11J-S95	1	TOGAMI	UP/DOWN
T1	TRANSFORMER	220V/24V 30VA	440V/24V 30VA	1	KITO	CONTROL CIRCUIT
F1	GLASS FUSE	2A	2A	1	FUJI	
F2~F3	GLASS FUSE	10A	10A	2	FUJI	
F4~F6	GLASS FUSE	30A	15A	3	FUJI	
RY15	RELAY	24V	24V	1	OMRON	HIGH/LOW
INV2	INVERTER	V1000	V1000	1	YASKAWA	RIGHT/LEFT
I/F BRD	INTERFACE BOARD	10~15A	10~15A	1	KITO	EMERGENCY STOP
RY24	RELAY	24V	24V	1	OMRON	
TB21	TERMINAL BOARD 21	10~15A	10~15A	1	KITO	
G11	BRIDGE DIODE	S15VB60	S15VB60	1	SHINDENGEN	
TB15	TERMINAL BOARD	10~15A	10~15A	1	KITO	
CHM	COUNTER HOUR METER	ECP91CHAA1-3	ECP91CHAA1-3	1	OTEC	사용회수, 시간 기록

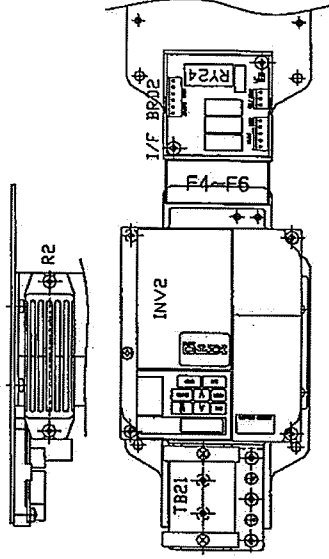


호이스트 CONTROL BOX 배치도 (ER2 025IS-IL/IS)

HOISTING CONTROL BOX

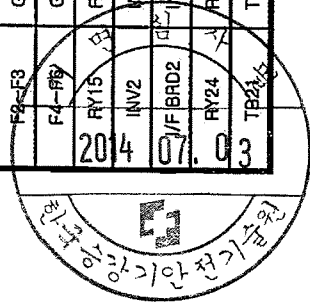


TRAVERSING CONTROL BOX



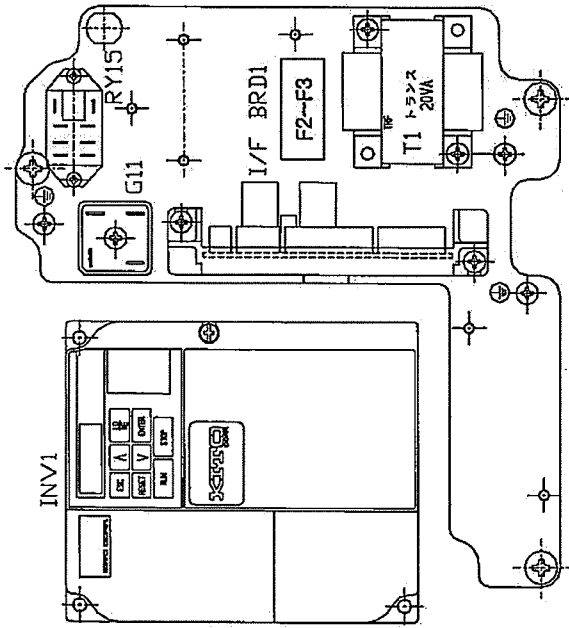
ENCLOSURE : HOIST BODY - IP55
PUSH BUTTON - IP65

MARK	DESCRIPTION	TYPE OF MODEL			Q'TY	MAKER	REMARKS
		220V	380V	440V			
INV1	INVERTER	V1000	V1000	V1000	1	YASKAWA	UP/DOWN
T1	TRANSFORMER	220V/24V 20VA	380V/24V 20VA	440V/24V 20VA	1	KITO	CONTROL CIRCUIT
G11	BRIDGE DIODE	S15VB60	S15VB60	S15VB60	1	SHINDENGEN	
I/F BRD1	INTERFACE BOARD	10~15A	10~15A	10~15A	1	KITO	
F2~F8	GLASS FUSE	10A	10A	10A	2	FUJI	
F4~F9	GLASS FUSE	30A	15A	15A	3	FUJI	
RY15	RELAY	24V	24V	24V	1	OMRON	HIGH/LOW
INV2	INVERTER	V1000	V1000	V1000	1	YASKAWA	RIGHT/LEFT
I/F BRD2	INTERFACE BOARD	10~15A	10~15A	10~15A	1	KITO	
RY24	RELAY	24V	24V	24V	1	OMRON	EMERGENCY STOP
TB21	TERMINAL BOARD 21	10~15A	10~15A	10~15A	1	KITO	

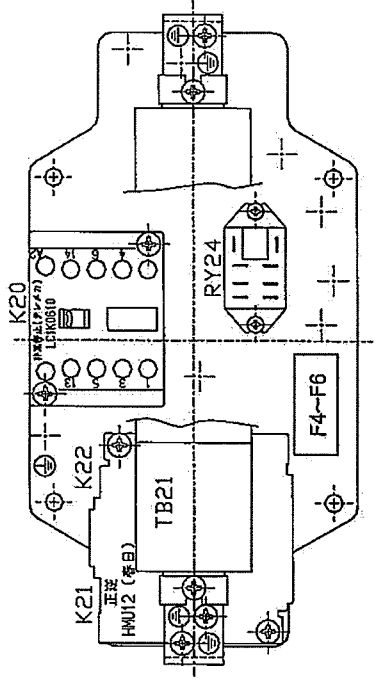


. 호이스트 CONTROL BOX 배치도 (ER2 025IS-L/S)

HOISTING CONTROL BOX

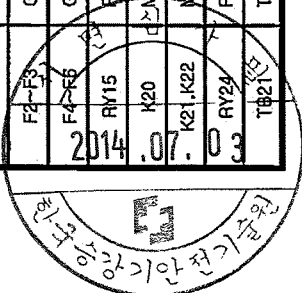


TRAVERSING CONTROL BOX



ENCLOSURE : HOIST BODY - IP55
PUSH BUTTON - IP65

MARK	DESCRIPTION	TYPE OF MODEL			Q'TY	MAKER	REMARKS
		220V	380V	440V			
INV1	INVERTER	V1000	V1000	V1000	1	YASKAWA	UP/DOWN
T1	TRANSFORMER	220V/24V 20VA	380V/24V 20VA	440V/24V 20VA	1	KITO	CONTROL CIRCUIT
G11	BRIDGE DIODE	S15VB60	S15VB60	S15VB60	1	SHINDENGEN	
I/F BRD1	INTERFACE BOARD	10~15A	10~15A	10~15A	1	KITO	
F2-F3	GLASS FUSE	10A	10A	10A	2	FUJI	
F4-F6	GLASS FUSE	30A	15A	15A	3	FUJI	
RY15	RELAY	24V	24V	24V	1	OMRON	HIGH/LOW
K20	MAGNET CONTACTOR	LC1K0610B7	LC1K0610B7	LC1K0610B7	1	TELEMECANIQUE	EMERGENCY STOP
K21, K22	MAGNET CONTACTOR	HMU12	HMU12	HMU12	1	KASUGA	RIGHT/LEFT
RY24	RELAY	24V	24V	24V	1	OMRON	EMERGENCY STOP
TB21	TERMINAL BOARD 21	10~15A	10~15A	10~15A	1	KITO	



Date: 2009/04/14

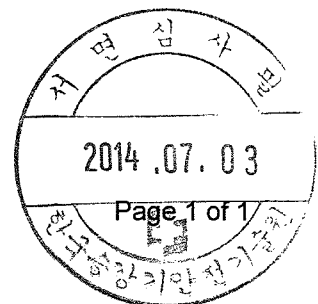
Certificate of Compliance

We certify that the ER2 protection degrees conform to the IP rating as follows:

Hoist body - IP55 based on JIS C 4034-5, "Rotating electrical machines – Part5: Classification of degrees of protection provided by enclosures of rotating electrical machines (IP code)".

Push button - IP65 based on JIS C 0920, "Tests to prove protection against ingress of water and degrees of protection against ingress of solid objects for electrical equipment".

Technical Control Group



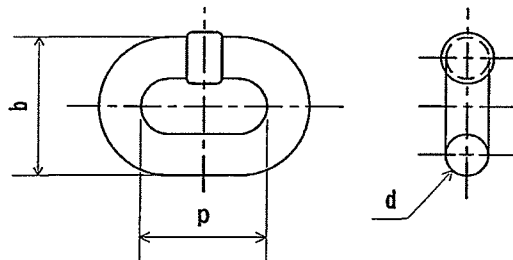
Certificate No. : FK100110

Date Issued : 2010/6/3

INSPECTION CERTIFICATE

Messrs. SAMSUNG HEAVY INDUSTRIES CO., LTD.

Commodity : NC Load Chain
 Code : KER2-112
 Lot No. : 2358
 Quantity : 1 line(s)
 Reference No. : U3-U63-00563
 Order No. : KJ-10-076B
 Production No. : 303035



1. Material : Manganese Alloy Steel

2. Dimensions (mm)

	d	p	b
Specified	11.2 ±0.4	31.2 +0.61 0	Max. 39.0
Result	Good	Good	Good

3. Breaking test

	Breaking load (kN)	Total ultimate elongation (%)
Specified	Min. 160	Min. 10
Result	Good	Good

4. Manufacturing Proof force test (Test load : 100 kN)

	Permanent elongation (%)
Specified	Max. 0.25
Result	Good

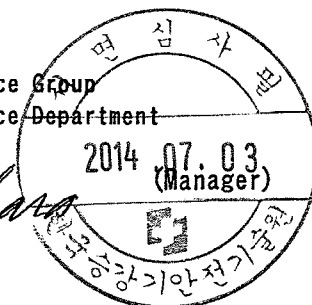
General judgment : Satisfactory



2000 Tsukijiarai, Showa-cho,
 Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group
 Quality Assurance Department

M. Ogihara



Messrs. _____

Motor Test Report for Electric Chain Hoist

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. : -

Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ	3.5kW	4P	60%ED	220V	60Hz

Full load characteristics

Voltage Frequency	220V 60Hz	
Load %	100	
Current A	16.9	
Speed rpm	1670	

Insulation class E

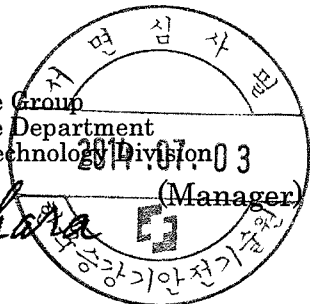
The above characteristics are obtained from calculation where the motor is assembled with an electric chain hoist and the hoist is subjected to full load


KITO CORP.

2000 Tsuijirai, Showa-cho,
Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group
Quality Assurance Department
Development & Technology Division 3

M. Ogihara
(Manager)



Messrs. _____

Motor Test Report for Electric Chain Hoist

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. : -

Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ	3.5kW	4P	40/20%ED	220V	Speed Control by Inverter

Full load characteristics

Voltage	Frequency	220V	Speed Control by Inverter
Load	%		100
Current	A		18.7
Speed	rpm		~

Insulation class E

The above characteristics are obtained from calculation where the motor is assembled with an electric chain hoist and the hoist is subjected to full load



2000 Tsuijirai, Showa-cho,
Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group
Quality Assurance Department
Development & Technology Division

M. Ogihara (Manager)

Messrs. _____

Motor Test Report for Electric Chain Hoist

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. :

Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ	3.5kW	4P	60%ED	380 - 440V	60Hz

Full load characteristics

Voltage Frequency	380 - 440V 60Hz	
Load	%	100
Current	A	8.7
Speed	rpm	1650

Insulation class B

The above characteristics are obtained from calculation where the motor is assembled with an electric chain hoist and the hoist is subjected to full load



2000 Tsuijiarai, Showa-cho,
Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group
Quality Assurance Department
Development & Technology Division

(Manager)

R. Kishimoto

Messrs. _____

Motor Test Report for Electric Chain Hoist

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. :

Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ	3.5kW	4P	60%ED	380 - 440V	Speed Control by Inverter

Full load characteristics

Voltage	Frequency	380 - 440V	Speed Control by Inverter
Load	%	100	
Current	A	9.2	
Speed	rpm	~	

Insulation class B

The above characteristics are obtained from calculation where the motor is assembled with an electric chain hoist and the hoist is subjected to full load



2000 Tsuijiarai, Showa-cho,
Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group
Quality Assurance Department
Development & Technology Division

(Manager)

K. Kishimoto

Messrs. _____

Motor Test Report for Electric Trolley

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. : -

Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ-T	0.4kW	4P	40%ED	220(208)V	60Hz

Full load characteristics

Voltage Frequency	220V 60Hz	
Load	%	100
Current	A	3.0
Speed	rpm	1685

Insulation class E

The above characteristics are obtained from calculation where the motor is assembled with an electric trolley and the trolley is subjected to full load



2000 Tsuijiarai, Showa-cho,
Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group
Quality Assurance Department
Development & Technology Division

M. Ogihara (Manager)

Messrs. _____

Motor Test Report for End Carriage

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. :

Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ-T	0.4kW	4P	40%ED	380 - 440V	60Hz

Full load characteristics

Voltage Frequency	380 - 440V 60Hz	
Load	%	100
Current	A	2.2
Speed	rpm	1670

Insulation class B

The above characteristics are obtained from calculation where the motor is assembled with an electric chain hoist and the hoist is subjected to full load



2000 Tsuijiarai, Showa-cho,
Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group
Quality Assurance Department
Development & Technology Division

(Manager)

K. Kishimoto

Messrs. _____

Motor Test Report for Electric Trolley

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. : -

Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ-T	0.4kW	4P	27/13%ED	220(208)V	Speed Control by Inverter

Full load characteristics

Voltage	Frequency	220V	Speed Control by Inverter
Load	%		100
Current	A		3.0
Speed	rpm		~

Insulation class E

The above characteristics are obtained from calculation where the motor is assembled with an electric trolley and the trolley is subjected to full load



2000 Tsuijiarai, Showa-cho,
Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group
Quality Assurance Department
Development & Technology Division

M. Ogihara (Manager)

Messrs. _____

Motor Test Report for End Carriage

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. :

Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ-T	0.4kW	4P	40%ED	380 - 440V	Speed Control by Inverter

Full load characteristics

Voltage	Frequency	220 - 230V	Speed Control by Inverter
Load	%	100	
Current	A	2.5	
Speed	rpm	~	

Insulation class B

The above characteristics are obtained from calculation where the motor is assembled with an electric chain hoist and the hoist is subjected to full load



2000 Tsuijarai, Showa-cho,
Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group
Quality Assurance Department
Development & Technology Division

(Manager)

K. Kishimoto

1) 과부하 방지장치

