Fuji Electric
Innovating Energy Technology

To All Customers

Rep No. C17004A
December 12, 2017
Fuji Electric FA Components &
Systems Co., Ltd.

Notification regarding Production Discontinuation of Compact Thermal Overload Relay TK-E02 due to Model Change

We would like to thank you for your continued patronage of Fuji products.
We are writing to announce the production discontinuation of some of our products. Details are described below.
Please review the following information and take appropriate actions.
In addition, please make sure to inform all related sections of your company.

Product name	Thermal overload relay
Series name	SC-E series
Type	TK-E02-☐ The thermal rating range (A) is indicated inside the ☐ symbol.
Reason for discontinuation of production	Production discontinuation due to the launch of successor models
Replacement models	TK26E-☐ The thermal rating code (A) is indicated inside the ☐ symbol.
Period for production discontinuation	January 31, 2018
Attachments	Comparison Table of New/Old Types Product specifications, external dimensions, and operating characteristic curve data Crosschart From Old to New Type
Last order date	January 19, 2018
Maintenance parts	There are no maintenance parts.

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Comparison of Thermal Overload Relay Specifications

TK26E - TK-E02

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1. Comparison of thermal overload relay specifications

			New	Old
Type			**TK26E**	**TK-E02**
Power consumption			**1.7 VA/pole**	**2.2 VA/pole**
Trip class			10A	10A
Auxiliary circuit	Contact arrangement		1NO+1NC	1NO+1NC
	Conventional free air thermal current (rated thermal current) I_{th}		5 A	5 A
	Coil load rated operational current (DC-13)	24 V	1.1 A	1.1 A
		100-120 V	0.28 A	0.28 A
		200-240 V	0.14 A	0.14 A
	Minimum operational voltage/current		5 V DC, 3 mA	5 V DC, 3 mA
Protection	Overcurrent detection (3 poles)		Standard	Standard
	Open phase detection		Standard	Standard
Ambient temperature compensation			Yes	Yes
Reset method			Manual/auto	Manual/auto
Changing reset method after shipping			OK	OK
Trip indicator			Yes	Yes
Applied product	Dial cover		**Standard**	**Sold separately**
	Terminal cover		**Standard**	**Sold separately**
	Separate mounting unit		**TZ1H26E**	**SZ-HCE**

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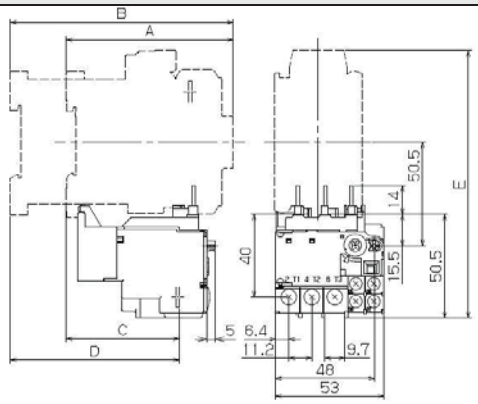
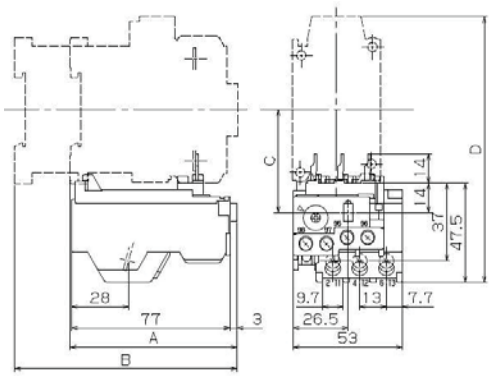
DWG.NO. FIN209122

2. Comparison of heater element ratings of thermal overload relays

Applicable capacity of three-phase squirrel-cage induction motor		New	Old
4P 400 V	4P 200 V	**TK26E**	**TK-E02**
		0.1 - 0.15 A	0.1 - 0.15 A
		0.13 - 0.2 A	0.13 - 0.2 A
		0.18 - 0.27 A	0.15 - 0.24 A
		-	0.2 - 0.3 A
0.1 kW		0.24 - 0.36 A	0.24 - 0.36 A
		-	0.3 - 0.45 A
		0.34 - 0.52 A	0.36 - 0.54 A
0.2 kW	0.1 kW	0.48 - 0.72 A	0.48 - 0.72 A
		0.64 - 0.96 A	0.64 - 0.96 A
0.4 kW		0.8 - 1.2 A	0.8 - 1.2 A
	0.2 kW	0.95 - 1.45 A	0.95 - 1.45 A
		1.1 - 1.65 A	—
0.75 kW		1.4 - 2.1 A	1.4 - 2.2 A
	0.4 kW	1.7 - 2.6 A	1.7 - 2.6 A
		2.2 - 3.4 A	2.2 - 3.4 A
1.5 kW	0.75 kW	2.8 - 4.2 A	2.8 - 4.2 A
2.2 kW		4 - 6 A	4 - 6 A
	1.5 kW	5 - 7.5 A	5 - 8 A
3.7 kW		6 - 9 A	6 - 9 A
	2.2 kW	7 - 10.5 A	7 - 11 A
5.5 kW		9 - 13 A	9 - 13 A
7.5 kW	3.7 kW	12 - 18 A	12 - 18 A
		16 - 22 A	16 - 22 A
11 kW	5.5 kW	20 - 26 A	20 - 25 A

3. Comparison of external appearance

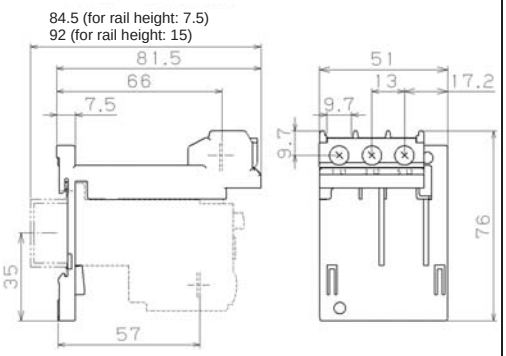
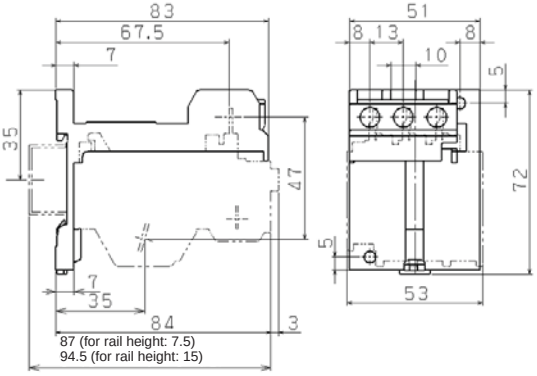
3-1. Main unit

New/old	New	Old
Type	**TK26E**	**TK-E02**
Outline dimensions [mm]		

Combination contactor				
Coil	Type	Dimensions		
AC	SC-E02, E02P SC-E03, E03P SC-E04, E04P SC-E05, E05P	A	C	E
		81	55.5	130
DC	SC-E02/G, E02P/G SC-E03/G, E03P/G SC-E04/G, E04P/G SC-E05/G, E05P/G	B	D	E
		108	82.5	130

Combination contactor				
Coil	Type	Dimensions		
AC	SC-E02, E02P SC-E03, E03P SC-E04, E04P SC-E05, E05P	A	C	D
		81	49	127
DC	SC-E02/G, E02P/G SC-E03/G, E03P/G SC-E04/G, E04P/G SC-E05/G, E05P/G	B	C	D
		108	49	127

3-2. Separate mounting unit

New/old	New	Old
Type	**TZ1H26E**	**SZ-HCE**
Outline dimensions [mm]		

4. Operating characteristic curve

New/old	New	Old
Type	**TK26E**	**TK-E02**
	FIN2083211	FIN2097235

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DWG.NO. FIN209122

	Specifications of Thermal overload relay Type : TK26E	Fuji Electric FA

1. Application scope

These specifications apply to Thermal overload relay Type TK26E

The conformable standards are

JIS C 8201-4-1 (Electromechanical contactors and motor-starters)

IEC 60947-4-1 (Electromechanical contactors and motor-starters)

GB 14048.4 (Electromechanical contactors and motor-starters)

2. Normal service conditions

The thermal overload relay shall operate normally without malfunction under the following standard conditions.

Ambient air temperature (near the product in use)	- 10 to +55℃	The average temperature in a day must not exceed 35℃.
Relative humidity	45 to 85%	There shall be no condensation or freezing due to a sudden temperature change.
Altitude	2000m or less	
Vibration condition	10 to 55Hz, 15m/s^2 or less	
Shock condition	50 m/s^2 or less	
Atmospheric conditions	There shall not be excessive dust, smoke, inflammable gases, vapor, oil vapor, salinity and corrosive materials in the atmosphere.	
Mounting	Vertical	If necessary, permissive angle is within 30 degrees in front/back or right/left directions.
Storage air temperature	- 40℃ to +65℃	There shall be no condensation or freezing due to a sudden temperature change.

3. Main circuit ratings

Rated insulation voltage Ui [V]	Ampere setting range
690	0.1-0.15, 0.13-0.2, 0.18-0.27, 0.24-0.36, 0.34-0.52, 0.48-0.72 0.64-0.96, 0.8-1.2, 0.95-1.45, 1.1-1.65, 1.4-2.1, 1.7-2.6, 2.2-3.4 2.8-4.2, 4-6 , 5-7.5, 6-9, 7-10.5, 9-13, 12-18, 16-22, 20-26

4. Auxiliary circuit ratings

Rated insulation voltage Ui [V]	Conventional free air thermal current Ith [A]	Making and breaking current (AC) [A]	Rated operational voltage Ue [V]	Rated operational current Ie [A]		Minimum voltage/ current
				AC-15 (Inductive load)	DC-13 (Inductive load)	
690	5	30	24	3(0.5)	1.1(0.3)	DC5V, 3mA
		25	100 to 120	2.5(0.5)	0.28	
		20	200 to 240	2(0.5)	0.14	
		10	380 to 440	1(0.5)	—	
		6	500 to 600	0.6(0.5)	—	

Note: ( ) values show ratings in case of auto reset.

5. 3 poles load (Trip Class 10A)

Current (Multiples of current setting)	Tripping time	Conditions	
		Ambient temperature [℃]	Status
105%	No tripping less than 2 hours	20	Cold start
120%	Tripping less than 2 hours	20	Hot start
150%	Tripping less than 2 minutes	20	Hot start
720%	Tripping within 2 to 10 seconds	20	Cold start

	DATE	NAME	APPROVED
DRAWN	2013-01-28	Y-Furuhata	
CHECKED			F. Moriwaki
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DWG.NO. FIN2095372

6. 2 poles load

Current (Multiples of current setting)	Tripping time	Conditions	
		Ambient temperature [°C]	Status
2poles 115%	Tripping less than 2 hours	20	Hot start

7. Temperature rise

The temperature rise of the parts shall not exceed the values in the following table when applied the maximum current of the dial setting to the main circuit and the conventional free air thermal current to the auxiliary circuit respectively.

(At the ambient air temperature of 55°C)

Measuring point	Contacts	Terminals
Temperature rise [K]	85	50

8. Insulation resistance and withstand voltage

8-1. Insulation resistance : It measures with a 500V megger and shall exceed the values in the following table.

8-2. Withstand voltage : Withstanding the voltage of the following table at 50 and 60Hz for 60 seconds.

8-3. Rated impulse withstand voltage : Withstanding the voltage of the following table.

Measuring position	Between main circuits and earth	Between main poles	Between auxiliary circuits	・Between main poles and auxiliary circuits
Insulation resistance [MΩ]	100	100	100	100
Withstand voltage [V]	1890	1890	1890	1890
Rated impulse withstand voltage Uimp [kV]	6	6	6	6

9. Resistance to vibration and shock

9-1. Resistance to vibration

(1) Endurance

There shall be no malfunction such as loosing screws, changing characteristics and mechanical damage after the endurance test.

The test conditions are 16.7Hz for the frequency, 2mm for the double amplitude and 2hr for the time in 3-axis direction.

(2) Unintended operation

There shall be no unintended opening and closing of the contact in applied 10 to 55Hz for the frequency and 15m/s^2 for the acceleration in 3-axis direction

9-2. Resistance to shock

(1) Endurance

There must be no malfunction such as changing characteristics and mechanical damage after applied 100m/s^2 for the acceleration in 3-axis direction.

(2) Unintended operation

There must be no unintended opening and closing of the contact in applied 50m/s^2 for the acceleration in 3-axis direction.

10. Renewal recommendation time of the product

As for the product that passed for more than 10 years after production, the renewal is recommended.

11. Attached materials

Documents name	Documents number
Outline drawing	F219 03 03(5)
Operating characteristics	FIN2083211

	DATE	NAME	APPROVED
DRAWN	2013-01-28	Y. Furuhata	
CHECKED			T. Imaichi
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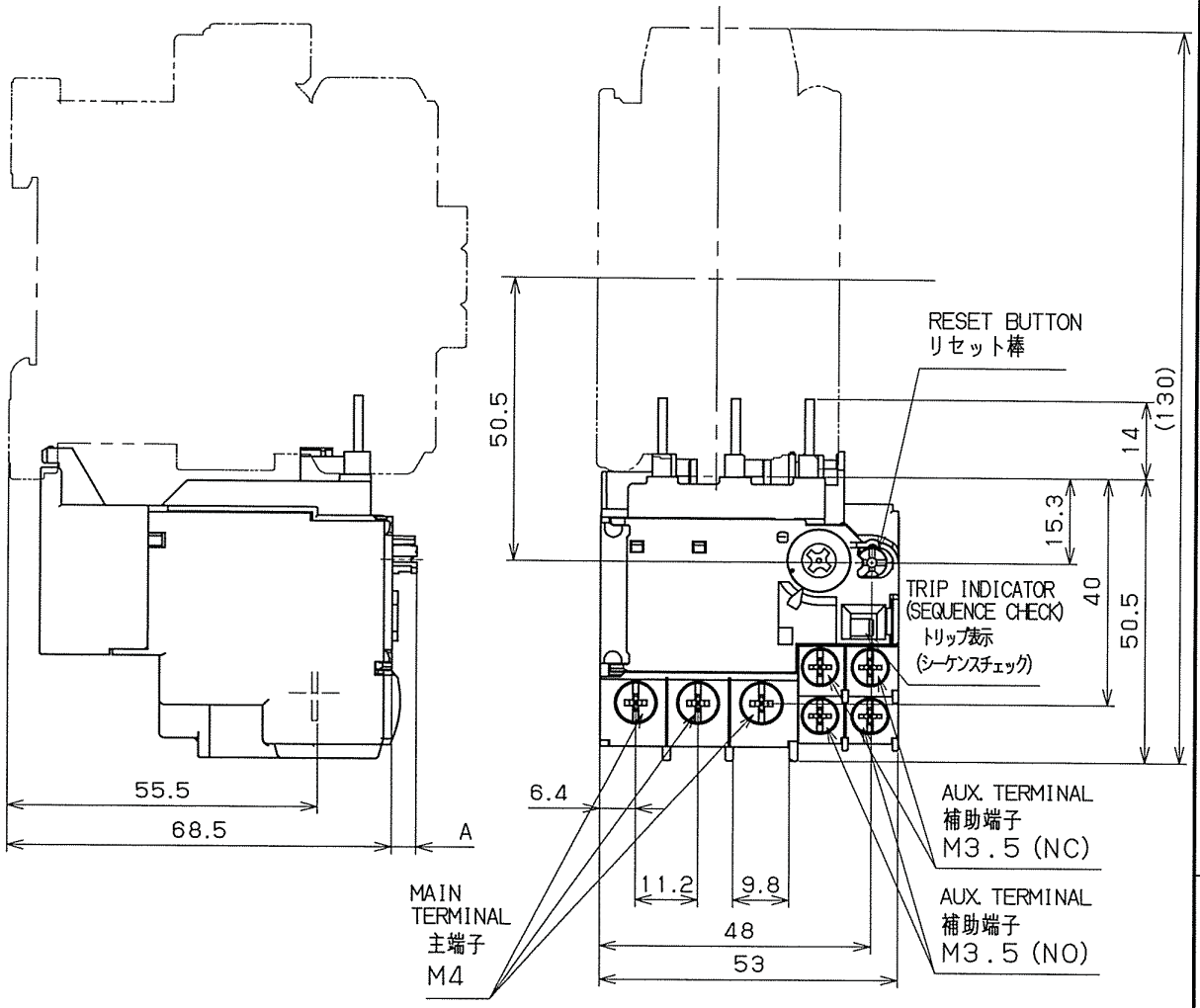
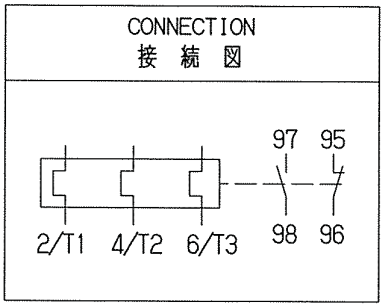
DIMENSIONS IN mm
WEIGHT:0.11kg





DIMENSION A
- MANUAL RESET MODE:5mm
- AUTO RESET MODE :2mm

A寸法
- 手動リセット状態：5mm
- 自動リセット状態：2mm

REVISIONS				DWG. CODE	
Ref.				TITLE	OUTLINE DRAWINGS FOR THERMAL OVERLOAD RELAY サーマルリレー外形図 TK26E
	DATE	NAME	APPROVED	SCALE	(0.8)
DRAWN	2013-03-11	K. Fujita			
CHECKED	2013-03-11	Y. Furukata			
Fuji Electric FA Components & Systems Co., Ltd.				DRAWING NO.	F219 03 03 (5) a

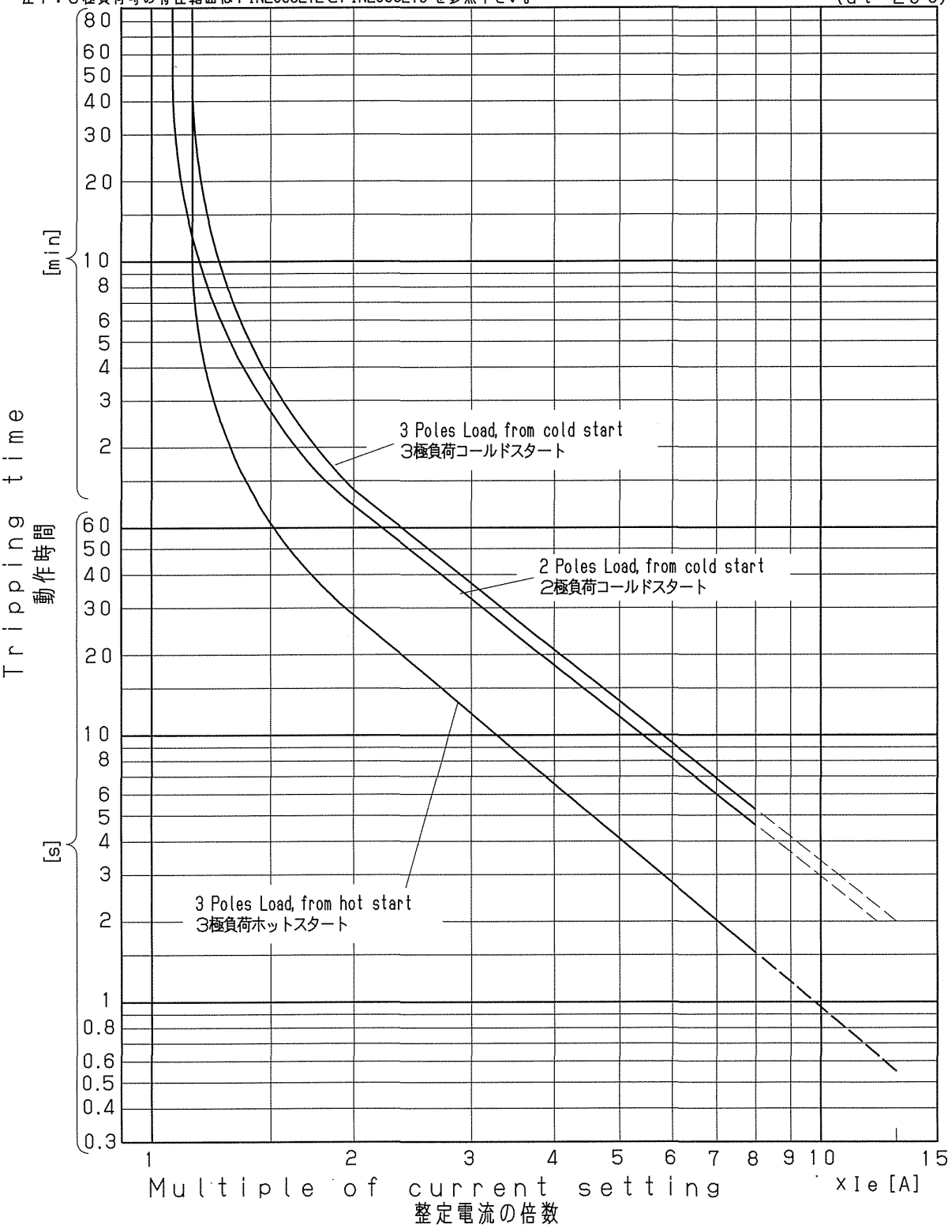
FI-4E

Characteristic Curve of Thermal Overload Relay
サーマルリレー動作特性曲線

Type 形式 : TK12 TK13 TK26 TK26E TK25

Note1: Zone of characteristic curve at 3 poles load is shown on FIN2083212 and FIN2083213.
注１：３極負荷時の特性範囲はFIN2083212とFIN2083213を参照下さい。

(at 20℃)



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DRAWN	2017-01-23	J.Furukata	Y.Furukata
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DWG. NO. FIN2083211 d

Crosschart

Current Product Type TK-E02		Replacment Type TK26E	
Part Number	**Ampere Range**	**Part Number**	**Ampere Range**
TK-E02-0.1-0.15	0.1 - 0.15 A	TK26E-P10	0.1 - 0.15 A
TK-E02-0.13-0.2	0.13-0.2 A	TK26E-P13	0.13 - 0.2A
TK-E02-0.15-0.24	0.15 -0.24 A	TK26E-P18	0.18 - 0.27 A
TK-E02-0.2-0.3	0.2 - 0.3 A	-	-
TK-E02-0.24-0.36	0.24 - 0.36 A	TK26E-P24	0.24 - 0.36 A
TK-E02-0.3-0.45	0.3 - 0.45 A	-	-
TK-E02-0.36-0.54	0.36 - 0.54 A	TK26E-P34	0.34 - 0.52 A
TK-E02-0.48-0.72	0.48 - 0.72 A	TK26E-P48	0.48 - 0.72 A
TK-E02-0.64-0.96	0.64 - 0.96 A	TK26E-P64	0.64 - 0.96 A
TK-E02-0.8-1.2	0.8 - 1.2 A	TK26E-P80	0.8 - 1.2 A
TK-E02-0.95-1.45	0.95 - 1.45 A	TK26E-P95	0.95 - 1.45 A
-	-	TK26E-1P1	1.1 - 1.65 A
TK-E02-1.4-2.2	1.4 - 2.2 A	TK26E-1P4	1.4 - 2.1 A
TK-E02-1.7-2.6	1.7 - 2.6 A	TK26E-1P7	1.7 - 2.6 A
TK-E02-2.2-3.4	2.2 - 3.4 A	TK26E-2P2	2.2 - 3.4 A
TK-E02-2.8-4.2	2.8 - 4.2 A	TK26E-2P8	2.8 - 4.2 A
TK-E02-4-6	4 -6 A	TK26E-004	4 -6 A
TK-E02-5-8	5 - 8 A	TK26E-005	5 - 7.5 A
TK-E02-6-9	6 - 9 A	TK26E-006	6 - 9 A
TK-E02-7-11	7 - 11 A	TK26E-007	7 - 10.5 A
TK-E02-9-13	9 - 13 A	TK26E-009	9 - 13 A
TK-E02-12-18	12 -18 A	TK26E-012	12 -18 A
TK-E02-16-22	16 - 22 A	TK26E-016	16 - 22 A
TK-E02-20-25	20 - 25 A	TK26E-020	20 - 26 A
SZ-HCE	Base unit for separate mounting	TZ1H26E	Base unit for separate mounting