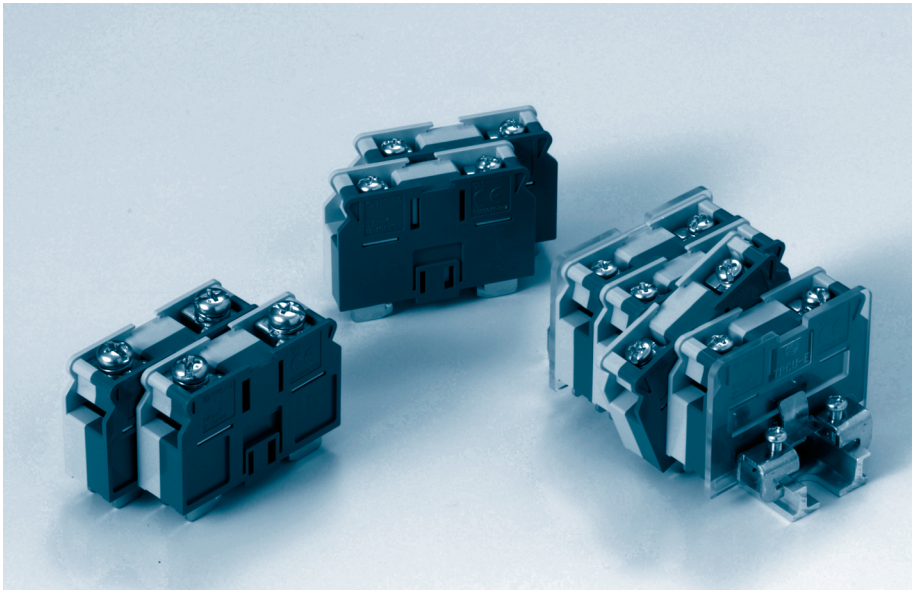
Ground terminal block

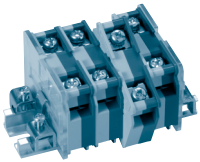
TPC TYPE



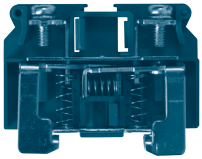
FEATURES

1 The TPC terminal block provides electrical continuity with the mounting rail (TUB) simply by wiring.
* Common grounding is ensured by connecting a ground wire to a terminal of the TPC unit or by directly grounding with the mounting rail.

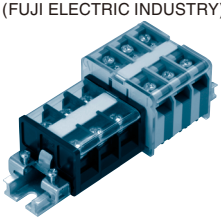
2 The TPC type can be mounted to or dismounted from the aluminum rail for each pole without removing the end clamp.



3 The up-screw type terminals can prevent screws from dropping off and reduce the number of wiring steps.



4 The TPC type can be mounted on the same aluminum rail (TUB) as the TU / TX type terminal block (FUJI ELECTRIC INDUSTRY).



5 The TPC type has acquired UL / TUV certification. This product can be safely used for overseas applications.

[Conformable standards]
- UL1059(2004)
  File No.E82309
- EN60947-7-2
  Certificate No.B 06 02 52683 004

6 The TPC type uses components conforming to the compliance with hazardous chemical substance control “RoHS Directive”.

SPECIFICATIONS (RATING, PERFORMANCE)

■General ratings

Item	Ratings
Operating temperature	-20 to +50°C (no freezing)
Storing temperature	-40 to +80°C (no freezing)
Relative humidity	45 to 80% (no condensation)
Altitude	2000m max.
Power frequency withstand voltage	2500 V AC for 1 minute
Lighting impulse	±4,000 V, five times for each pole (1.2 μs)

■Certification standards

Conformable standards	Certification mark	Certification organization file No.
UL1059		File No. E82309
EN60947-7-2		Certificate No. B 06 02 52683 004

■Ratings

Type	JIS rating	UL rating	EN rating	Current-carrying capacity (A) ※1	Terminal screw size	Tightening torque (N•m)
	Applicable wire (mm^2)	Applicable wire (AWG)	Applicable wire (mm^2)			
TPC-5.5-U	5.5 (2.0 to 5.5)	18 to 10	5.5 (2.2 to 5.5)	30	M4×8.5	1.2
TPC-14-U	14 (5.5 to 14)	16 to 6	14 (5.5 to 14)	60	M5×11	2.0

※1. Indicates current-carrying capacity for connection with the largest applicable wire.

HOW TO ORDER

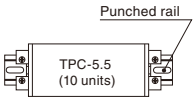
For assemblies (Orders for single units accepted.)

※ Use FUJI ELECTRIC INDUSTRY aluminum rail TUB-D (UD) or TUB-F (UF).

Ex.1 When one size type assembly

TPC-5.5 - U × 10 UD

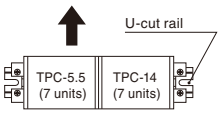
Basic type / Unit type / No. of units / Rail designation



Ex.2 When two size types assembly

TPC-5.5 - U × 7 + 14 - U × 7 UF

Basic type / Unit type / No. of units / Basic type / Unit type / No. of units / Rail designation



Ground terminal block

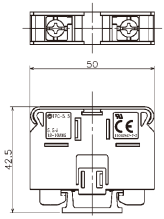
TPC TYPE

STANDARD PRODUCTS

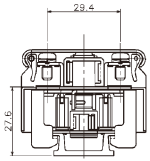
TPC-5.5-U(30A)

Applicable wire: 2 to 5.5mm² (AWG18 to 10)

●Dimensions



TPC-5.5



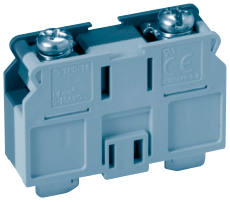
Unit structure

●Accessories

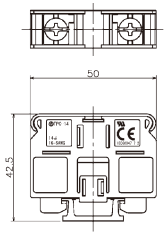
End plate	TPCU-E
Marker strip	TUM-1
Aluminum rail	TUB
End clamp	TUL
Cover	TUC-8

TPC-14-U(60A)

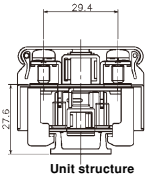
Applicable wire: 5.5 to 14mm² (AWG16 to 6)



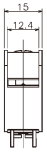
●Dimensions



TPC-14



Unit structure



●Accessories

End plate	TPCU-E
Marker strip	TUM-1
Aluminum rail	TUB
End clamp	TUL
Cover	TUC-8

ACCESSORIES

End plate

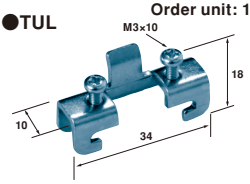
●TPCU-E

Order unit: 100

End clamp

●TUL

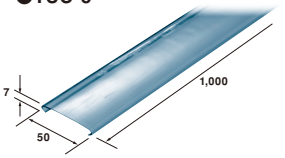
Order unit: 100



Cover

●TUC-8

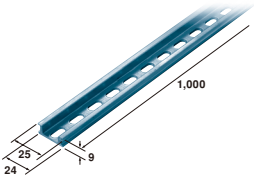
Order unit: 20



Aluminum rail

●TUB

Order unit: 50



Marker strip

●TUM-1

Order unit: 100

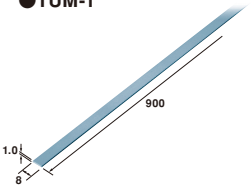
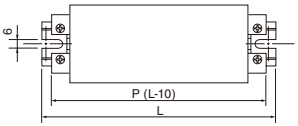


TABLE OF ASSEMBLED DIMENSIONS

TPC type assembly on U-cut rail

TUB-F type

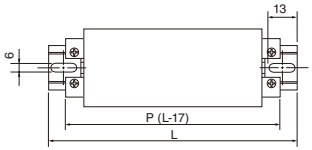


Type	TPC-5.5						
No.of units	P	L	Rail	No.of units	P	L	Rail
1	40	50	UF-50	23	325	335	UF-335
2	50	60	UF-60	24	340	350	UF-350
3	65	75	UF-75	25	350	360	UF-360
4	80	90	UF-90	26	365	375	UF-375
5	90	100	UF-100	27	375	385	UF-385
6	105	115	UF-115	28	390	400	UF-400
7	115	125	UF-125	29	405	415	UF-415
8	130	140	UF-140	30	415	425	UF-425
9	150	160	UF-160	31	430	440	UF-440
10	155	165	UF-165	32	440	450	UF-450
11	170	180	UF-180	33	455	465	UF-465
12	180	190	UF-190	34	470	480	UF-480
13	195	205	UF-205	35	480	490	UF-490
14	210	220	UF-220	36	495	505	UF-505
15	220	230	UF-230	37	505	515	UF-515
16	235	245	UF-245	38	520	530	UF-530
17	245	255	UF-255	39	535	545	UF-545
18	260	270	UF-270	40	545	555	UF-555
19	275	285	UF-285	41	560	570	UF-570
20	285	295	UF-295	42	570	580	UF-580
21	300	310	UF-310	43	585	595	UF-595
22	310	320	UF-320				

Type	TPC-14						
No.of units	P	L	Rail	No.of units	P	L	Rail
1	40	50	UF-50	23	370	380	UF-380
2	55	65	UF-65	24	385	395	UF-395
3	70	80	UF-80	25	400	410	UF-410
4	85	95	UF-95	26	415	425	UF-425
5	100	110	UF-110	27	430	440	UF-440
6	115	125	UF-125	28	445	455	UF-455
7	130	140	UF-140	29	460	470	UF-470
8	145	155	UF-155	30	475	485	UF-485
9	160	170	UF-170	31	490	500	UF-500
10	175	185	UF-185	32	505	515	UF-515
11	190	200	UF-200	33	520	530	UF-530
12	205	215	UF-215	34	535	545	UF-545
13	220	230	UF-230	35	550	560	UF-560
14	235	245	UF-245	36	565	575	UF-575
15	250	260	UF-260	37	580	590	UF-590
16	265	275	UF-275				
17	280	290	UF-289				
18	295	305	UF-305				
19	310	320	UF-320				
20	325	335	UF-335				
21	340	350	UF-350				
22	355	365	UF-365				

TPC type assembly on punched rail

TUB-D type



Type	TPC-5.5						
No.of units	P	L	Rail	No.of units	P	L	Rail
1	60	77	UD-4	23	320	337	UD-17
2	60	77	UD-4	24	340	357	UD-18
3	60	77	UD-4	25	360	377	UD-19
4	80	97	UD-5	26	360	377	UD-19
5	100	117	UD-6	27	380	397	UD-20
6	100	117	UD-6	28	400	417	UD-21
7	120	137	UD-7	29	400	417	UD-21
8	140	157	UD-8	30	420	437	UD-22
9	140	157	UD-8	31	420	437	UD-22
10	160	177	UD-9	32	440	457	UD-23
11	160	177	UD-9	33	460	477	UD-24
12	180	197	UD-10	34	460	477	UD-24
13	200	217	UD-11	35	480	497	UD-25
14	200	217	UD-11	36	500	517	UD-26
15	220	237	UD-12	37	500	517	UD-26
16	240	257	UD-13	38	520	537	UD-27
17	240	257	UD-13	39	540	557	UD-28
18	260	277	UD-14	40	540	557	UD-28
19	280	297	UD-15	41	560	577	UD-29
20	280	297	UD-15	42	580	597	UD-30
21	300	317	UD-16	43	580	597	UD-30
22	320	337	UD-17				

Type	TPC-14						
No.of units	P	L	Rail	No.of units	P	L	Rail
1	40	77	UD-4	23	380	397	UD-20
2	50	77	UD-4	24	380	397	UD-20
3	65	97	UD-5	25	400	417	UD-21
4	80	97	UD-5	26	420	437	UD-22
5	90	117	UD-6	27	440	457	UD-23
6	105	137	UD-7	28	440	457	UD-23
7	115	157	UD-8	29	460	477	UD-24
8	130	157	UD-8	30	480	497	UD-25
9	150	177	UD-9	31	500	517	UD-26
10	155	197	UD-10	32	500	517	UD-26
11	170	217	UD-11	33	520	537	UD-27
12	180	217	UD-11	34	540	557	UD-28
13	195	237	UD-12	35	560	577	UD-29
14	210	257	UD-13	36	560	577	UD-29
15	220	277	UD-14	37	580	597	UD-30
16	235	277	UD-14				
17	245	297	UD-15				
18	260	317	UD-16				
19	275	337	UD-17				
20	285	337	UD-17				
21	300	357	UD-18				
22	310	377	UD-19				

Ground terminal block

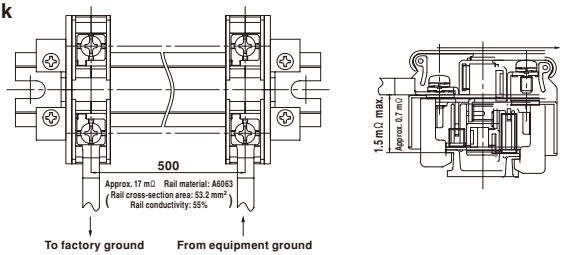
TPC TYPE

REFERENCE

Comparison of ground resistance between TPC type ground terminal block and copper ground bar

In comparing the ground resistance between a TPC type ground terminal block mounted on a TUB-F aluminum rail and a copper ground bar, the resulting ground resistance is as follows:
(When compared with a copper ground bar with the same cross-section area as the TUB-F rail)

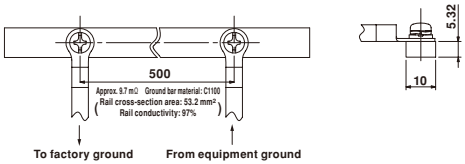
TPC type terminal block



Between equipment ground terminal and factory ground terminal: approx. 18 to 20 mΩ

＊When the terminal block is mounted on the TUB-D (punched rail), the ground resistance is approx. 24 to 26 mΩ.

Copper ground bar



Between equipment ground terminal and factory ground terminal: approx. 9.7 mΩ

●Conductor resistance calculation formula

$$R = \rho \frac{\ell}{S}$$ (ρ: Volume resistivity <Ω-m>, S: Cross-section area, ℓ: Length)

Principal parts list

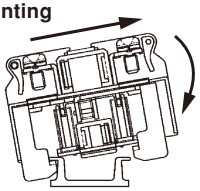
Component name	Material	Remarks
Unit (Green or yellow)	Modified PPE resin (Polyphenylene ether)	Flame-retardance: UL94 V-0, Oxygen index: 26 or more, Tracking resistance: 225
Terminal	Brass	Nickel plating
Base plate	Carbon steel	Zinc plating (Tri-chromate finished)
Terminal screw	Carbon steel	Zinc plating (Tri-chromate finished)
Spring	Stainless steel	–
End plate	Polycarbonate resin	Flame-retardance: UL94 V-2, Oxygen index: 26 or more, Transparent
End clamp	Carbon steel	Zinc plating (Tri-chromate finished)
Alminum rail	Aluminum alloy	–
Cover	Polycarbonate resin	Flame-retardance: UL94 HB, Oxygen index: 26 or more
Marker strip	ABS resin	Oxygen index: 19 or more

RAIL MOUNTING / DISMOUNTING

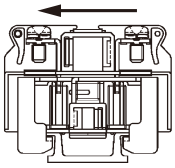
In addition to mounting the terminal block by sliding it from the end of a rail, it can also be mounted according to the following procedure:

■Quick mounting / dismounting

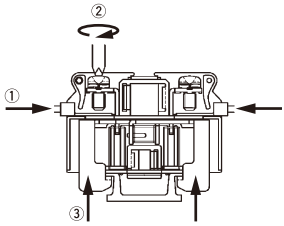
① Mounting



Hook the unit on the rail and slide it forward.

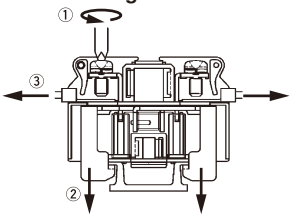


Replace the unit and make sure that the brackets on both sides of the unit are engaged in the rail.

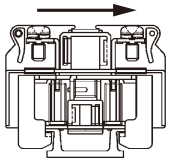


Connect the wires and tighten the terminals screws with the specified tightening torque. (In this step, the unit is grounded to the rail by the terminal screw tightening force. Do not forget to tighten the screws of unconnected terminals.)

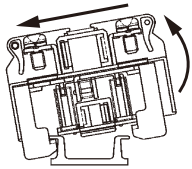
② Dismounting



Disconnect the wires.



Slide the unit forward.



Dismount the unit from the rail.

PRECAUTIONS

(1) Use the terminal block within the rated conditions.
(2) Since connection mistakes may result in an accident, thoroughly check the wiring.
(3) Before using the terminal block, be sure to check the connection of the lead wire and other abnormalities.
(4) Do not apply stress to connected wires.
(5) Avoid using the terminal block in harsh environments (high temperature, high humidity, dust, corrosive gas, etc.).
(6) Do not use the terminal block in such a way that it is exposed to strong impact or vibration.
(7) Do not splash organic solvent or oil over the terminal block.
(8) To connect the wires, be sure to use crimp terminals.
(9) Tighten the terminal screws with a torque that conforms to the standards.
(10) When mounting or dismounting the terminal block, turn off the power to the terminals.
(11) Be sure to mount the end plates on both ends of the terminal block and fasten the terminal block with the end clamp (including cases where other terminal blocks are mounted on the same aluminum rail.)
(12) For this product, use the aluminum rail (TUB) specified by FUJI ELECTRIC INDUSTRY. Do not use other aluminum rails than those specified. If an unspecified aluminum rail is used, it may cause a grounding failure.
(13) To ensure proper grounding, be sure to tighten the screws on unconnected terminals.
(14) Do not apply surface coating (rust-resistant coating, etc.) to the aluminum rail (TUB). It may cause a grounding failure.