TFPM Series
Product Line-up/ Common Specifications/ Materials

Finger protection Assembled Terminal Block

Product Line-up

■Finger protection Assembled Terminal block

This is a panel-mount finger protection terminal block assembled with a shaft. Its finger-protect structure eliminates exposure of live parts, making it ideal when enhanced safety is required.A wide range of standard pole counts is available, allowing for economical selection.•A globally compliant product certified to c-UL-us and TÜV standards. In addition, it meets UL field wiring requirements and is certified by TÜV for IP20 protection.•The degree of protection according to IEC 60529 is IP20.•The body color of the terminal block is gray.

Abstract	Rated Insulation Voltage	Ratings Note 1	Terminal screw Note2	Standard Poles	Basic type name
A finger-protect type terminal block compliant with UL field wiring requirements and TÜV IP20 standards. The body color is gray.	800V	1.25mm² [15A]	M3×8 ⊕ Spring-loaded screw terminal	2～30P	TFPM15
		2mm² [20A]	M3.5×8 ⊕ Spring-loaded screw terminal		TFPM20
		5.5mm² [40A]	M4×8.5 ⊕ Spring-loaded screw terminal	2～20P	TFPM40
		14mm² [80A]	M5×10 ⊕ Spring-loaded screw terminal	2～15P	TFPM80

Note1 Ratings are recommended values with usage in compliance to JIS standards.
Note2 As for the Symbols inTerminal screw colums, ⊕ is plus/minus screw.

Common Specifications

Operational Ambience Temperature Range	−25～+55℃ (without Freezing nor Dew condensation)
Relative Humidity	45～85%RH
Temperature rise	Max. 45℃ of temperature rise at conducting metals
Insulating Resistance	Between each live part and between each live part and the mounting metal plate: Min. 100 MΩ
Commercial Frequency Withstanding Voltage	2500V 1 Min.
Impulse Withstanding Voltage	6000V(TFPM15, TFPM20) Note1 8000V(TFPM40, TFPM80)
Conformed Standards	JIS C8201-7-1 Note2, NECA C2811 (JIS C2811) Note3 UL1059, EN/IEC 60947-7-1

Materials

Name	Materials	Flame retardance grade
Terminal Base	Polycarbonate	UL94V-0
Terminal screws	Steel (Zinc plated Chromate Treatment)	—
Conducting Plate	Brass (Nickel plating)	—
Seal for legends	Polypropylene	—

Note 1: When the crimped section of the solderless terminal is insulated, the Impulse Withstanding voltage becomes 8,000 V.
Note 2: As of May 2010, JIS C2811 has been replaced by JIS C8201-7-1.
Note 3: NECA C2811 is a standard conforming to the contents of JIS C2811.

Ratings for Overseas Certification

■The Ratings used as comforming products to UL/cULus

TFPM series Terminal blocks are certified products by cULus.
The ratings in using products as the cULus conformed ones are as shown below:

c UL us File No.:E114903

Product Name Note3	UL Standard (UL1059)						cULus Standard (CSA Standard C22•2 No.158)			
	Ratings Voltage (V)	Ratings Current (A)	Applicable wires (AWG/MCM) Note1		FW Note2	Tightening Torque (N•m)	Ratings Voltage (V)	Ratings Current (A)	Applicable wires Note1 (AWG/MCM)	Tightening Torque (N•m)
			Single wire	Stranded wire						
TFPM15	600	10	20～16	20～16	2	0.9	600	10	20～16	0.9
TFPM20	600	20	20～14	＊20～14	2	1.3	600	20	20～＊14	1.3
TFPM20＋	600	15	20～14	20～14	2	1.3	—	—	—	—
TFPM40	600	30	18～10	＊18～10	2	1.8	600	30	18～＊10	1.8
TFPM40＋	600	25	18～12	18～12	2	1.8	—	—	—	—
TFPM80	600	65	16～6	＊16～6	2	2.7	600	65	16～＊6	2.7
TFPM80＋	600	30	14～12	—	2	2.7	—	—	—	—
TNC10	300	15	20～14	20～16	2	1.3	—	—	—	—
						0.9	—	—	—	—
TNC40	600	30	16～10	16～10	2	1.8	—	—	—	—

Note1: The above list applies to connection by bare copper or by crimp terminals. As for Applicable Wires, however, values with * are only for connection by crimp terminals. Please use only crimp terminals with UL or cULus conformance.
Note2: FW1: Wirings at factory, FW2:Wirings at factory and in-field
Note3: As forTFPM20,TFPM40 and TFPM80 used without crimp terminals, apply ratings for the product names with (+) at the end.
Note4: If products are used at ULRatings, connect only one wire to one terminal.

■The Ratings used as comforming products to EN/IEC

The TFPM series terminal blocks are certified by TÜV, an international third-party certification organization, to conform to EN/IEC standards, enabling smoother verification of CE marking compliance for machinery. The ratings when used as EN/IEC-compliant products are as follows:

TÜV Rheinland License No.:R2050847、R2050848、R9551560 CE

Product Name	Ratings Voltage (V)	Impulse Withstanding Voltage (V)	Ratings Current (A)	Applicable wires (AWG/MCM) Note1		Tightening torque (N•m)	Connectable Wires	Protection Grade IP Note2
				Single wire	Stranded wire			
TFPM15	600	6000	15	20～16 (0.5-1.5mm²)	20～16 (0.5-1.5mm²)	0.9	1 or 2	IP20
TFPM20	600	6000	20	20～14 (0.5-2.5mm²)	20～14 (0.5-2.5mm²)	1.3	1 or 2	IP20
TFPM40	600	6000	40	18～10 (0.75-6mm²)	18～10 (0.75-6mm²)	1.8	1 or 2	IP20
TFPM80	600	6000	60	16～10 (1.5-6mm²)	16～8 (1.5-10mm²)	2.8	1 or 2	IP20
			80	—	＊6 (16mm²)			

Note 1: The above table applies to both bare copper wire connections and crimp terminal connections. However, wire types marked with an asterisk (*) are for crimp terminal connections only.
Please note the following points:
For crimp terminal connections: Use insulated crimp terminals, or insulate bare crimp terminals with sleeves, tubes, or tape.
When connecting two bare wires: Use wires of the same size and type (solid or stranded). Do not connect wires of different sizes or types.
Note 2: The TFPM series are compliant with IP20 protection for both the screw head side and the wire insertion side. However, when using wire terminals, always ensure insulation by using insulated crimp terminals or applying insulation to bare crimp terminals with sleeves, tubes, or similar materials.