

TOYOGI

Spring-Lock type Terminal Block

VTX series

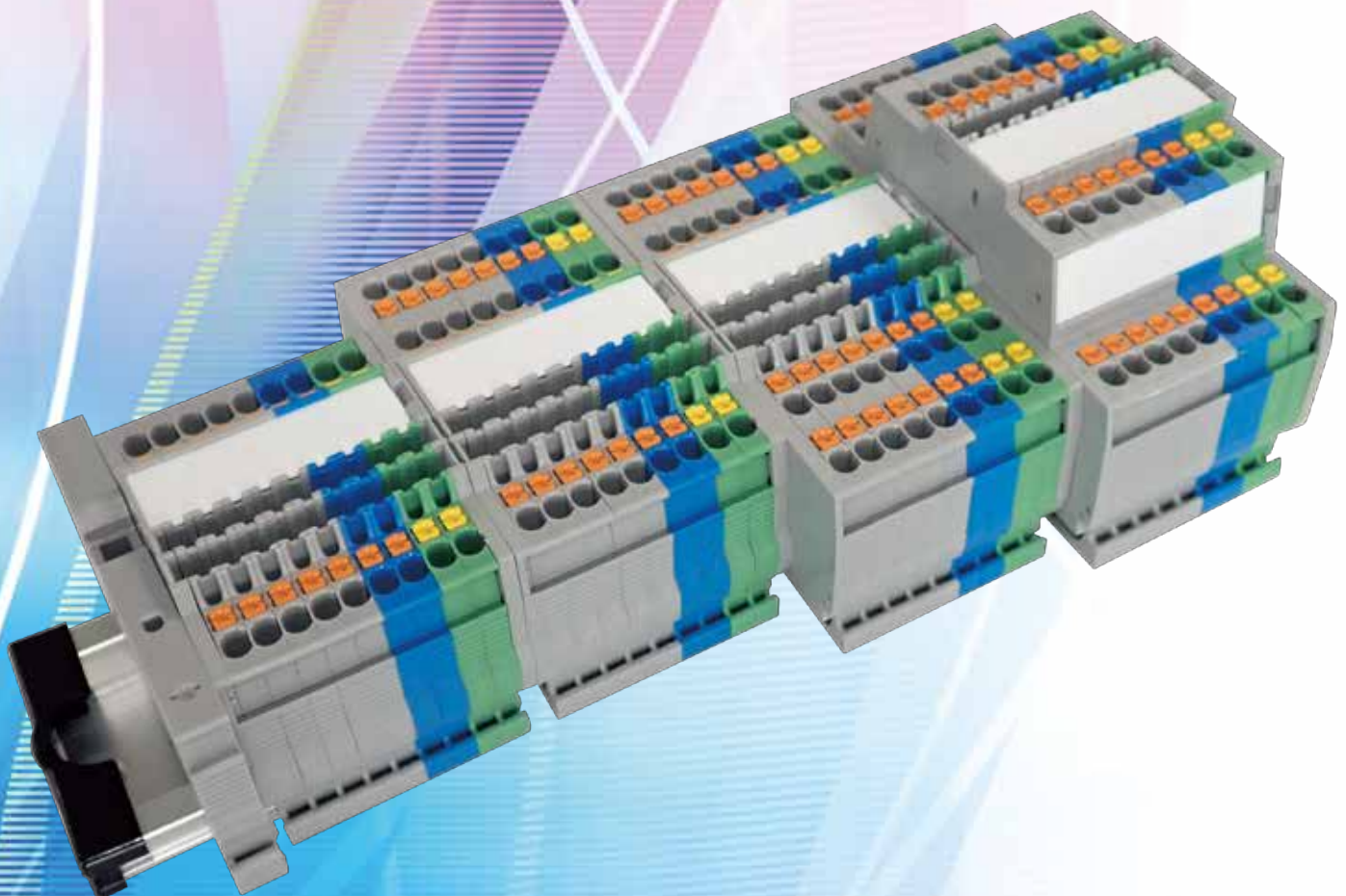
C **UL** US
File No. E113585


TÜVRheinland

RoHS
Compliant

Push-in type terminal block with a connection release button.

Terminal block for IEC/DIN35mm rail



TOYOGIKEN CO.,LTD.

■ WARNING & CAUTION

Safe Use of VTX series

■ General Specifications

Operating situations Ambient temperature: -25°C~+60°C (No freezing or condensation)
 Relative humidity: 45~85%
 Storing temperature: -40°C~+105°C

Please read through the following before wiring works and maintenance.

WARNING

- Always turn OFF the power supply before wiring. Electrical shock may occur.
- Do not exceed the ratings. Doing so may damage or burn out the Terminal block.

CAUTION

- Do not bend a wire past its natural bending radius or pull on it with excessive force. Doing so may cause the wire disconnection. Do not place excessive force on a terminal block. Doing so may damage or deform the terminal block and result in contact failure.
- Do not use the Terminal Block in locations where toxic gases, such as H₂S, SO₂, NH₃, HNO₃, and Cl₂, may be present, or in locations subject to high temperature or humidity. Doing so may damage the Terminal Block due to contact failure or corrosion.
- Do not use the terminal block submersed in oil or water, or in locations continuously subject to splashes of oil or water. Doing so may result in oil or water entering and damaging the terminal block.
- Do not use or keep the terminal block under the following conditions:
 - ◆ Subject to severe temperature changes.
 - ◆ Subject to high humidity or condensation.
 - ◆ Subject to severe vibration or shock.
 - ◆ Where direct rays of the sun strike.
 - ◆ Where sea breeze may be present.
- Do not insert more than one wire into each terminal insertion hole.
- If you mount more than one terminal block, mount them so that the conductive parts of adjacent terminal blocks are facing in the same direction. If they face in different directions, short circuits may occur between adjacent terminal blocks.
- Do not touch the product with wet hands.
- Use applicable tools for works.
- Mount terminal blocks on a IEC rail securely and fix it with stoppers on the both ends.

■ Safety precautions for use of ground terminal blocks

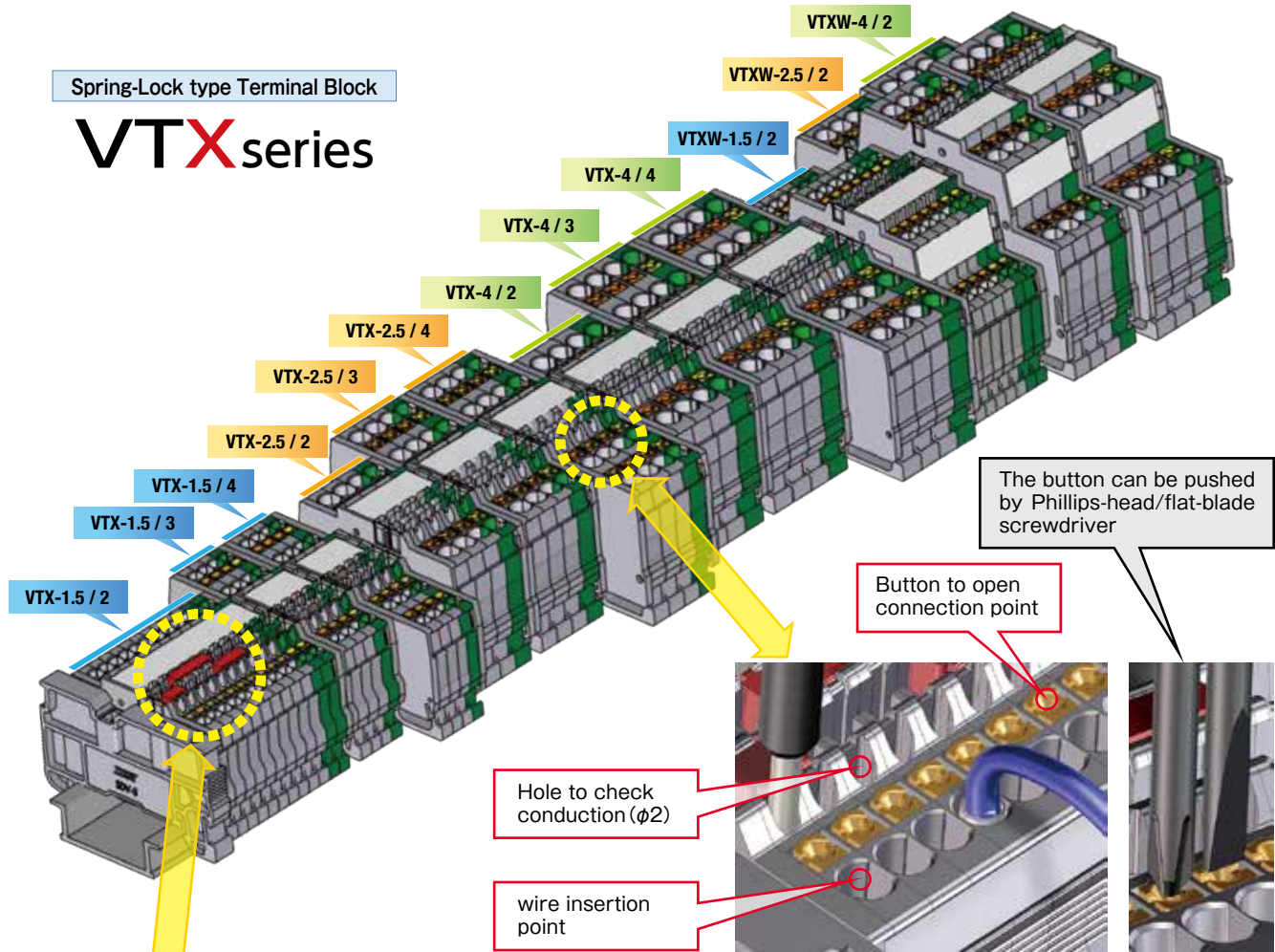
- Terminal blocks electrically connected to a rail when mounted on a rail.
- Detach terminal blocks from a rail before the reposition.
- Do not wire shield ground wire and ground wire on one rail. Doing so may result damaging the terminal block by surge current.
- Use ground terminal blocks as PE, do not use as PEN.
- When use ground terminal blocks, fix the terminal blocks with the stoppers on the both sides.
- Do not drop terminal blocks.

※Change of the specifications and discontinuation of the product may occur without announcement.

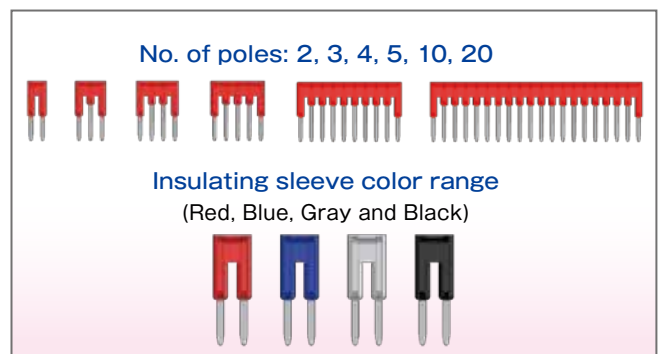
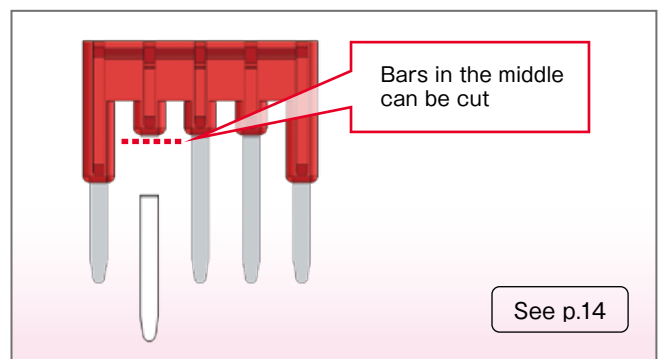
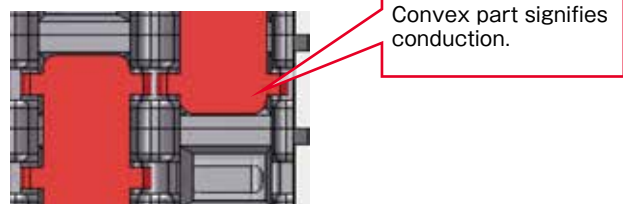
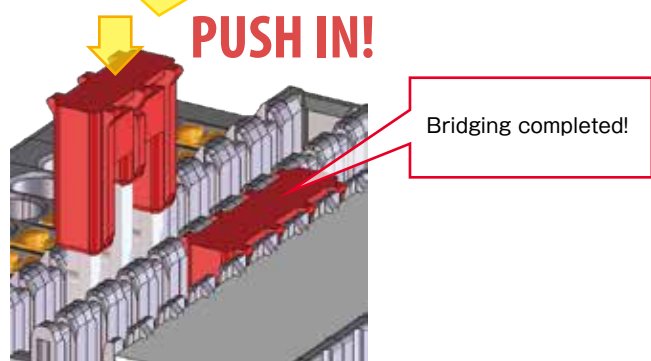
Products Details

Spring-Lock type Terminal Block

VTXseries

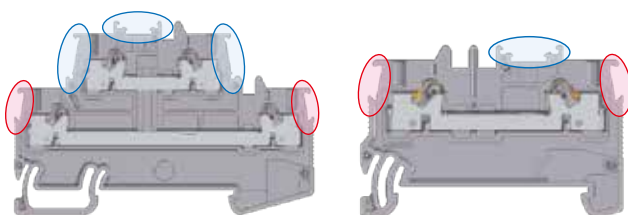
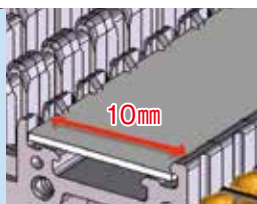


Short Bar



Installing Name Plates

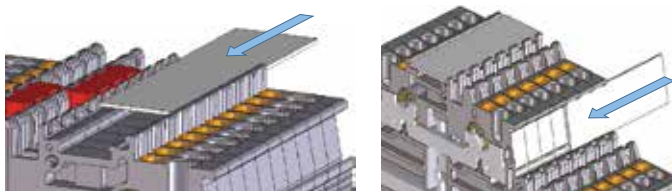
- ◆ Name plate width: 10mm
- ◆ 2 ways of installing methods
 - ① Insert a name plate from the sides
 - ② Insert a name plate from top



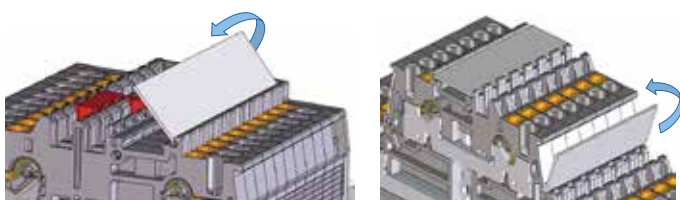
10mm width name plate fits here

6.5mm width name plate fits here

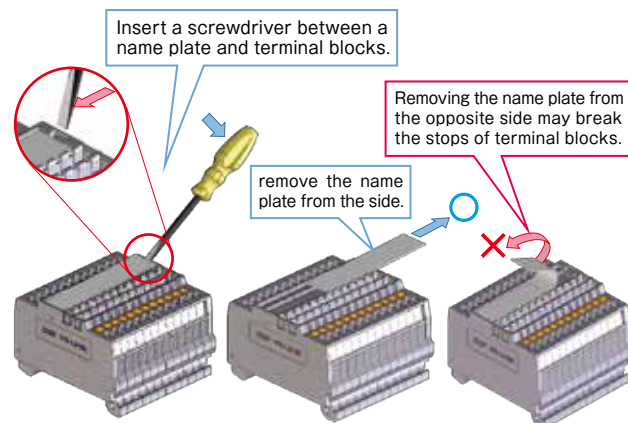
① Insert a name plate from the sides



② Insert a name plate from top

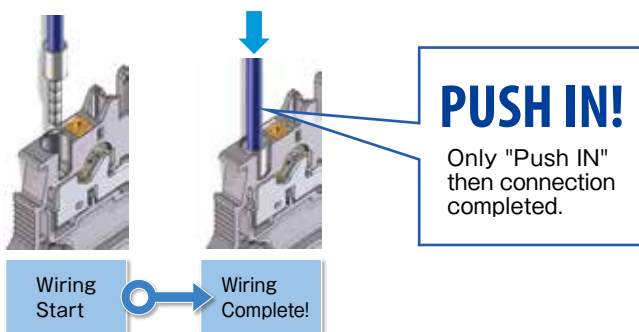


■ Name plate Removal

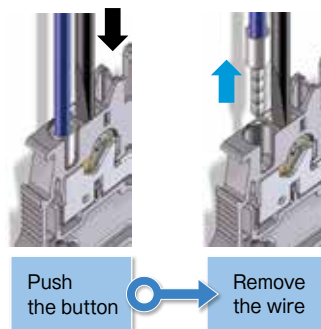


How to Connect Wires to Terminal Block

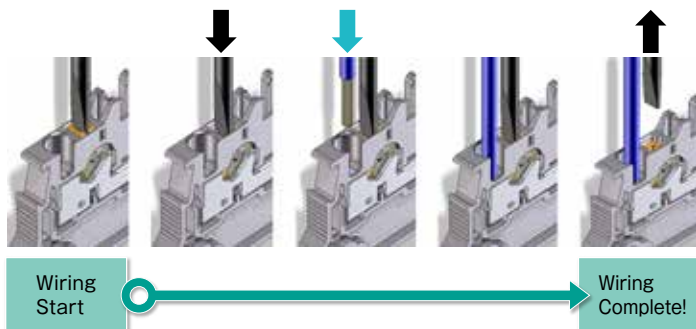
■ Ferrule/Solid wire



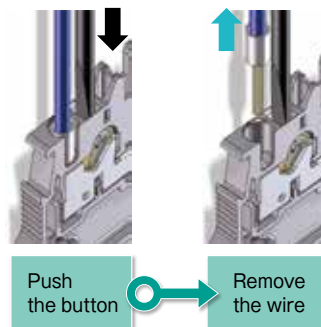
Release the Connection



■ Stranded wire

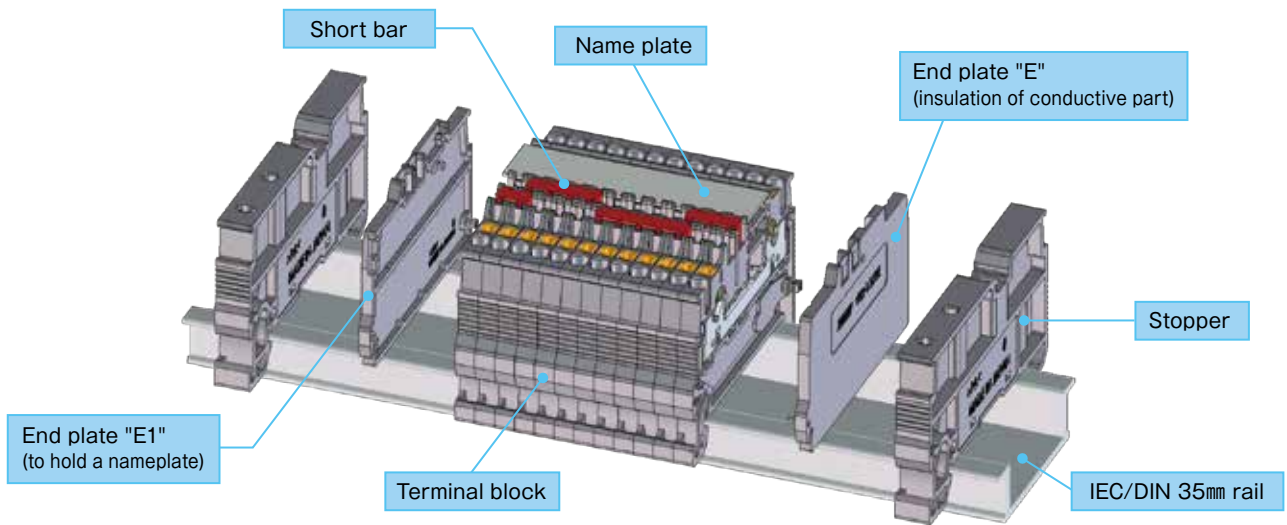


Release the Connection



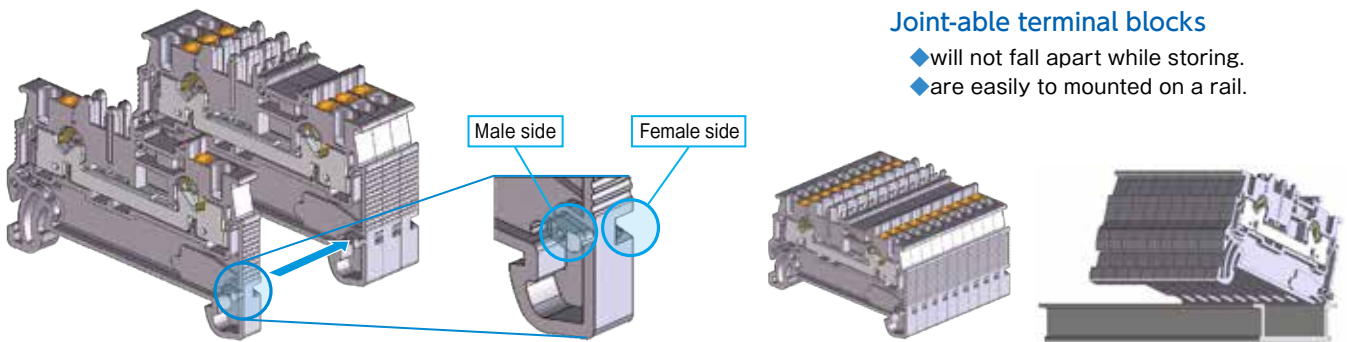
Push the button with a screwdriver, insert a wire all the way inside and remove the screwdriver.

Basic Structure



※Please select and mount the applicable end plates (E&E1) on both sides of the terminal blocks.

Jointed Terminal Blocks Structures

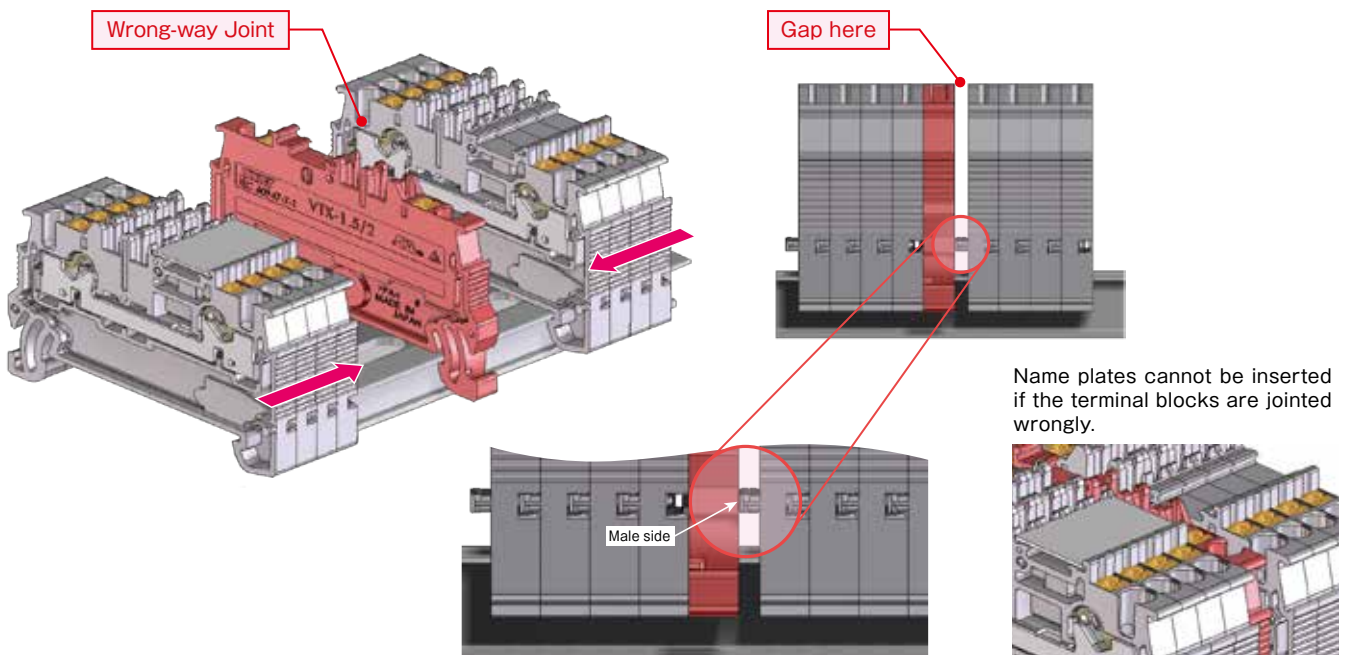


Joint-able terminal blocks

- ◆ will not fall apart while storing.
- ◆ are easily to mounted on a rail.

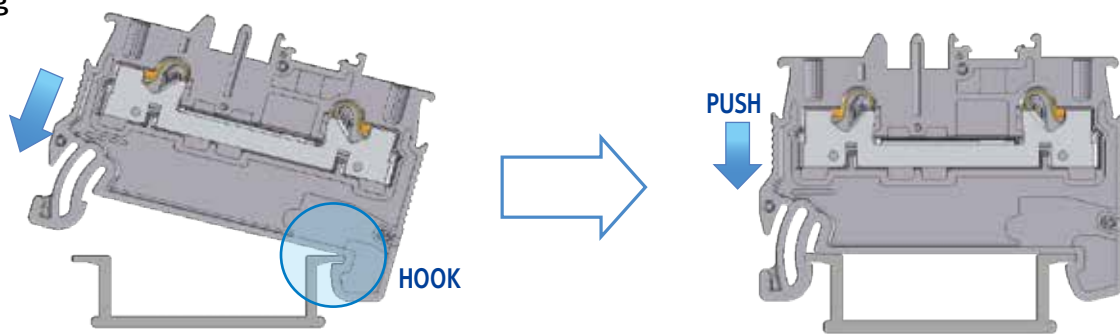
Wrong-way Joint

- ◆ Wrong-way joint makes a GAP between terminal blocks.

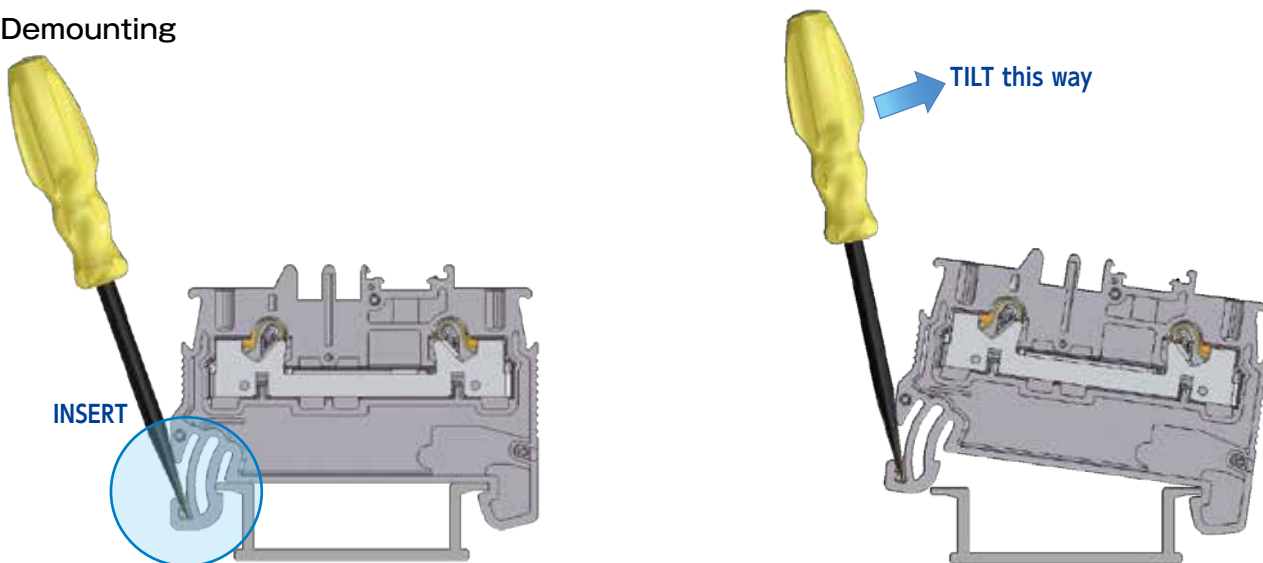


Mounting/Demounting on IEC35mm rail

■ Mounting

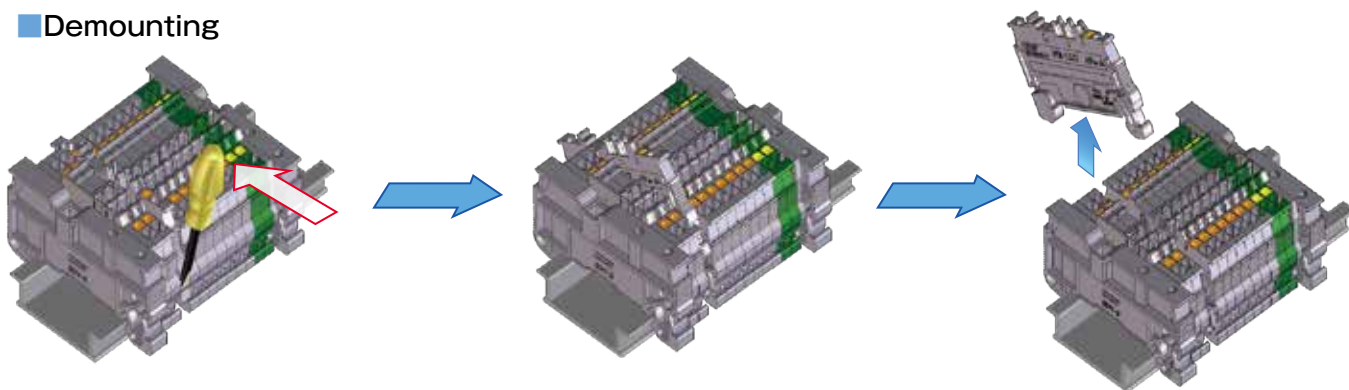


■ Demounting

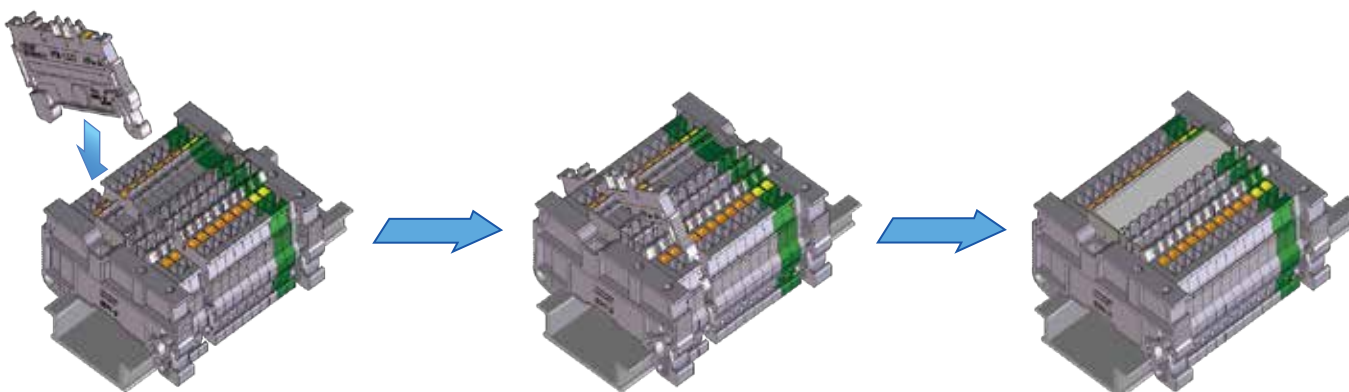


Replacement

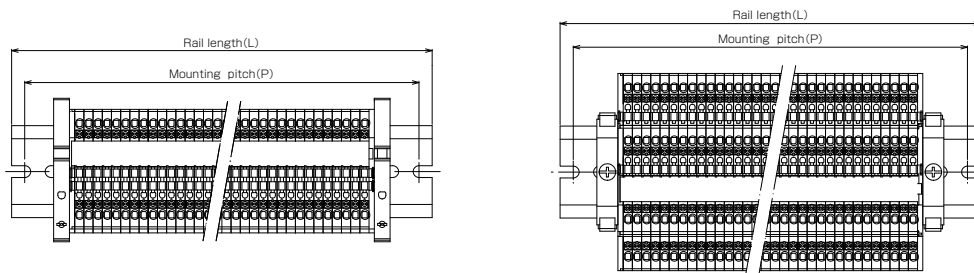
■ Demounting



■ Mounting



VTX series Dimensions Table



Mounting pitch (P)	Rail length (L)	VTX-1.5/2 VTX-1.5/2-PE	VTX-1.5/3 VTX-1.5/3-PE	VTX-1.5/4 VTX-1.5/4-PE	VTXW-1.5/2 VTXW-1.5/2-PE	VTX-2.5/2 VTX-2.5/2-PE	VTX-2.5/3 VTX-2.5/3-PE	VTX-2.5/4 VTX-2.5/4-PE	VTXW-2.5/2 VTXW-2.5/2-PE	VTX-4/2 VTX-4/2-PE	VTX-4/3 VTX-4/3-PE	VTX-4/4 VTX-4/4-PE	VTXW-4/2 VTXW-4/2-PE	Mounting pitch (P)	Rail length (L)
mm	mm	No. of poles			No. of Unit	No. of poles			No. of Unit	No. of poles			No. of Unit	mm	mm
30	40	1	~	2	1	1			-	1			-	30	40
50	60	3	~	8	2~7	2	~	5	1~4	2	~	4	1~4	50	60
70	80	9	~	14	8~12	6	~	9	5~8	5	~	7	5~7	70	80
90	100	15	~	19	13~18	10	~	13	9~12	8	~	11	8~10	90	100
110	120	20	~	25	19~24	14	~	17	13~16	12	~	14	11~13	110	120
130	140	26	~	31	25~30	18	~	20	17~20	15	~	17	14~16	130	140
150	160	32	~	36	31~35	21	~	24	21~24	18	~	20	17~20	150	160
170	180	37	~	42	36~41	25	~	28	25~27	21	~	24	21~23	170	180
190	200	43	~	48	42~47	29	~	32	28~31	25	~	27	24~26	190	200
210	220	49	~	54	48~52	33	~	36	32~35	28	~	30	27~29	210	220
230	240	55	~	59	53~58	37	~	40	36~39	31	~	33	30~33	230	240
250	260	60	~	65	59~64	41	~	44	40~43	34	~	36	34~36	250	260
270	280	66	~	71	65~70	45	~	47	44~47	37	~	40	37~39	270	280
290	300	72	~	76	71~75	48	~	51	48~50	41	~	43	40~42	290	300
310	320	77	~	82	76~81	52	~	55	51~54	44	~	46	43~45	310	320
330	340	83	~	88	82~87	56	~	59	55~58	47	~	49	46~49	330	340
350	360	89	~	94	88~92	60	~	63	59~62	50	~	53	50~52	350	360
370	380	95	~	99	93~98	64	~	67	63~66	54	~	56	53~55	370	380
390	400	100	~	105	99~104	68	~	70	67~70	57	~	59	56~58	390	400
410	420	106	~	111	105~110	71	~	74	71~74	60	~	62	59~62	410	420
430	440	112	~	116	111~115	75	~	78	75~77	63	~	65	63~65	430	440
450	460	117	~	122	116~121	79	~	82	78~81	66	~	69	66~68	450	460
470	480	123	~	128	122~127	83	~	86	82~85	70	~	72	69~71	470	480
490	500	129	~	134	128~132	87	~	90	86~89	73	~	75	72~75	490	500
510	520	135	~	139	133~138	91	~	94	90~93	76	~	78	76~78	510	520
530	540	140	~	145	139~144	95	~	97	94~97	79	~	82	79~81	530	540
550	560	146	~	151	145~150	98	~	101	98~100	83	~	85	82~84	550	560
570	580	152	~	156	151~155	102	~	105	101~104	86	~	88	85~87	570	580
590	600	157	~	162	156~161	106	~	109	105~108	89	~	91	88~91	590	600
610	620	163	~	168	162~167	110	~	113	109~112	92	~	95	92~94	610	620
630	640	169	~	174	168~172	114	~	117	113~116	96	~	98	95~97	630	640
650	660	175	~	179	173~178	118	~	120	117~120	99	~	101	98~100	650	660
670	680	180	~	185	179~184	121	~	124	121~124	102	~	104	101~104	670	680
690	700	186	~	191	185~190	125	~	128	125~127	105	~	107	105~107	690	700
710	720	192	~	196	191~195	129	~	132	128~131	108	~	111	108~110	710	720
730	740	197	~	202	196~201	133	~	136	132~135	112	~	114	111~113	730	740
750	760	203	~	208	202~207	137	~	140	136~139	115	~	117	114~116	750	760
770	780	209	~	214	208~212	141	~	144	140~143	118	~	120	117~120	770	780
790	800	215	~	219	214~218	145	~	147	144~147	121	~	124	121~123	790	800
810	820	220	~	225	219~224	148	~	151	148~150	125	~	127	124~126	810	820
830	840	226	~	231	225~230	152	~	155	151~154	128	~	130	127~129	830	840
850	860	232	~	236	231~235	156	~	159	155~158	131	~	133	130~133	850	860
870	880	237	~	242	236~241	160	~	163	159~162	134	~	136	134~136	870	880
890	900	243	~	248	242~247	164	~	167	163~166	137	~	140	137~139	890	900
910	920	249	~	254	248~252	168	~	170	167~170	141	~	143	140~142	910	920
930	940	255	~	259	253~258	171	~	174	171~174	144	~	146	143~145	930	940
950	960	260	~	265	259~264	175	~	178	175~177	147	~	149	146~149	950	960
970	980	266	~	271	265~270	179	~	182	178~181	150	~	153	150~152	970	980
990	1000	272	~	275	271~275	183	~	186	182~185	154	~	156	153~155	990	1000

※Rail=DAV/DAS series

Accessories & Tools

Short bar



- BX1.5 500V/17.5A
- BX2.5 800V/24A
- BX4 800V/32A

Order form

B BX 1.5 -2

: No. of poles
2, 3, 4, 5, 10, 20
: Terminal blocks model name
1.5, 2.5, 4

: Color of insulation part
B: Black R: Red G: Gray BL: Blue



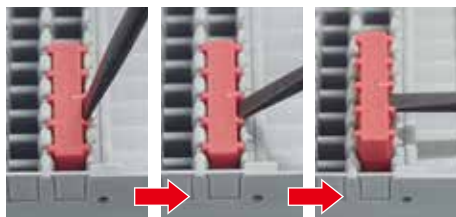
Series	No. of poles	Part No.				Materials	Weight (g)	Sales lot
		B: Black	R: Red	G: Gray	BL: Blue			
VTX-1.5	2	BBX1.5-2	RBX1.5-2	GBX1.5-2	BLBX1.5-2	Copper alloy (Tin plating) PA (UL94 V-0)	0.7	10
	3	BBX1.5-3	RBX1.5-3	GBX1.5-3	BLBX1.5-3		1.0	10
	4	BBX1.5-4	RBX1.5-4	GBX1.5-4	BLBX1.5-4		1.4	10
	5	BBX1.5-5	RBX1.5-5	GBX1.5-5	BLBX1.5-5		1.7	10
	10	BBX1.5-10	RBX1.5-10	GBX1.5-10	BLBX1.5-10		3.4	10
	20	BBX1.5-20	RBX1.5-20	GBX1.5-20	BLBX1.5-20		6.8	10
VTX-2.5	2	BBX2.5-2	RBX2.5-2	GBX2.5-2	BLBX2.5-2	Copper alloy (Tin plating) PA (UL94 V-0)	1.5	10
	3	BBX2.5-3	RBX2.5-3	GBX2.5-3	BLBX2.5-3		2.3	10
	4	BBX2.5-4	RBX2.5-4	GBX2.5-4	BLBX2.5-4		3.1	10
	5	BBX2.5-5	RBX2.5-5	GBX2.5-5	BLBX2.5-5		3.8	10
	10	BBX2.5-10	RBX2.5-10	GBX2.5-10	BLBX2.5-10		7.7	10
	20	BBX2.5-20	RBX2.5-20	GBX2.5-20	BLBX2.5-20		15.4	10
VTX-4	2	BBX4-2	RBX4-2	GBX4-2	BLBX4-2	Copper alloy (Tin plating) PA (UL94 V-0)	1.7	10
	3	BBX4-3	RBX4-3	GBX4-3	BLBX4-3		2.6	10
	4	BBX4-4	RBX4-4	GBX4-4	BLBX4-4		3.5	10
	5	BBX4-5	RBX4-5	GBX4-5	BLBX4-5		4.4	10
	10	BBX4-10	RBX4-10	GBX4-10	BLBX4-10		8.9	10
	20	BBX4-20	RBX4-20	GBX4-20	BLBX4-20		17.9	10

① Inserting short bar



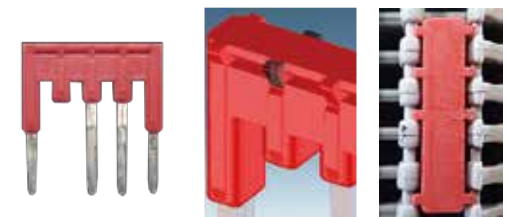
Insert short bar until the end (until the upper part of the short bar and the upper surface of the terminal block become the same level)

② Removing short bar

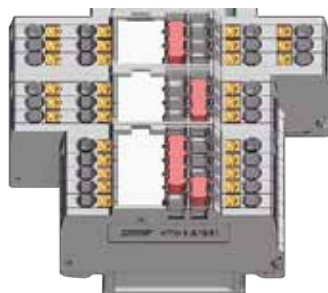


Insert a screwdriver between a short bar and terminal blocks then lift up. 2-4poles...lift the center of the short bar 5poles or more... lift each end alternately

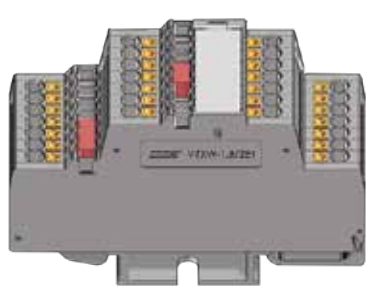
Position-Skipping



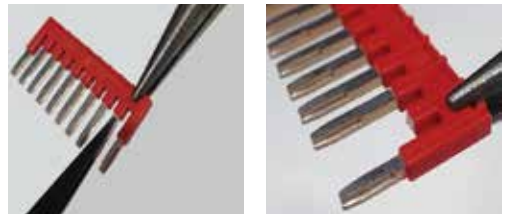
VTX2.5 and VTX4 must be operated at the rated voltage 600V. Skipped position can be figured by cutting convex part.



VTX/2, VTX/3 and VTX/4 Short bar holes in double rows.



VTXW (two-stage terminal block) Short bar holes in single row on the upper and lower stage.

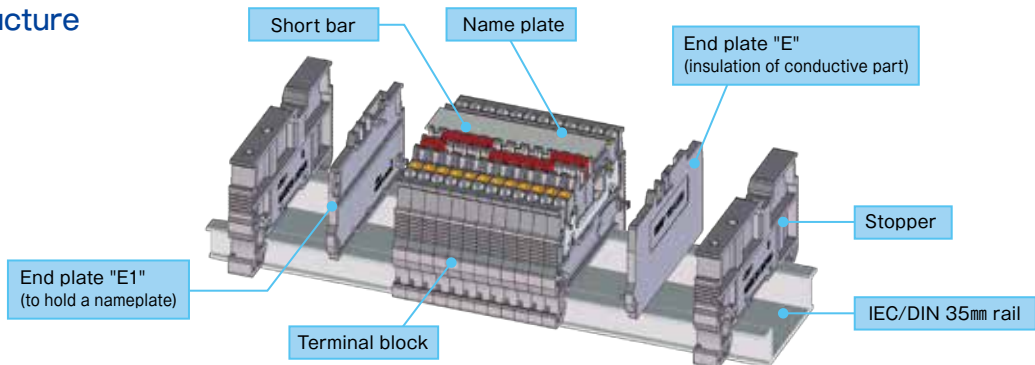


Please be careful not to break resin parts of a short bar during processing.



Do not cut bars at the ends

Basic Structure













*Please select and mount the applicable end plates (E&E1) on both sides of the terminal blocks.

End Plate

*Please order E and E1 together.

Terminal Block	Order No.	Purpose of use	Weight (g)	Materials	Sales lot	Fig.
VTX-1.5/2	VTX-1.5/2E	Insulation of conductive part	1.6	PA (UL94 V-0)	10	
	VTX-1.5/2E1	To hold a nameplate	1.6		10	
VTX-1.5/3	VTX-1.5/3E	Insulation of conductive part	2		10	
	VTX-1.5/3E1	To hold a nameplate	2		10	
VTX-1.5/4	VTX-1.5/4E	Insulation of conductive part	2.3		10	
	VTX-1.5/4E1	To hold a nameplate	2.3		10	
VTXW-1.5/2	VTXW-1.5/2E	Insulation of conductive part	3.3		10	
	VTXW-1.5/2E1	To hold a nameplate	3.3		10	
VTX-2.5/2	VTX-2.5/2E	Insulation of conductive part	2.3		10	
	VTX-2.5/2E1	To hold a nameplate	2.3		10	
VTX-2.5/3	VTX-2.5/3E	Insulation of conductive part	2.9		10	
	VTX-2.5/3E1	To hold a nameplate	2.9		10	
VTX-2.5/4	VTX-2.5/4E	Insulation of conductive part	3.4		10	
	VTX-2.5/4E1	To hold a nameplate	3.4		10	

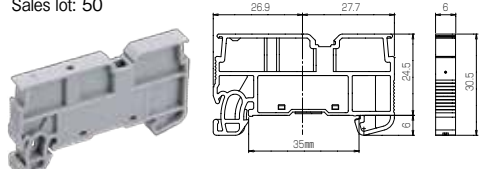
VTXW-2.5/2	VTXW-2.5/2E	Insulation of conductive part	4.8	PA (UL94 V-0)	10	
	VTXW-2.5/2E1	To hold a nameplate	4.8		10	
VTX-4/2	VTX-4/2E	Insulation of conductive part	2.45		10	
	VTX-4/2E1	To hold a nameplate	2.45		10	
VTX-4/3	VTX-4/3E	Insulation of conductive part	3.1		10	
	VTX-4/3E1	To hold a nameplate	3.1		10	
VTX-4/4	VTX-4/4E	Insulation of conductive part	3.6		10	
	VTX-4/4E1	To hold a nameplate	3.6		10	
VTXW-4/2	VTXW-4/2E	Insulation of conductive part	5.1		10	
	VTXW-4/2E1	To hold a nameplate	5.1		10	

Stopper

Order No.	Rail	Series	Applicable model		
SDV-3	DAVseries DASseries	VTX-1.5	VTX-1.5/2 VTX-1.5/3-PE	VTX-1.5/2-PE VTX-1.5/4	VTX-1.5/3 VTX-1.5/4-PE
		VTX-2.5	VTX-2.5/2 VTX-2.5/3-PE	VTX-2.5/2-PE VTX-2.5/4	VTX-2.5/3 VTX-2.5/4-PE
		VTX-4	VTX-4/2 VTX-4/3-PE	VTX-4/2-PE VTX-4/4	VTX-4/3 VTX-4/4-PE

SDV-3

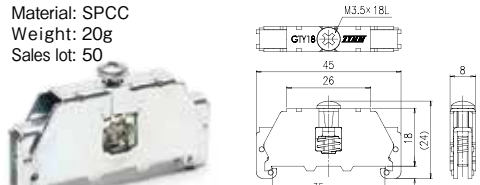
Material: PA66 (UL94V-0)
Weight: 6.3g
Sales lot: 50



GTY18	DAVseries DASseries	VTX-1.5	VTX-1.5/2 VTX-1.5/3-PE VTXW-1.5/2	VTX-1.5/2-PE VTX-1.5/4 VTXW-1.5/2-PE	VTX-1.5/3 VTX-1.5/4-PE
		VTX-2.5	VTX-2.5/2 VTX-2.5/3-PE VTXW-2.5/2	VTX-2.5/2-PE VTX-2.5/4 VTXW-2.5/2-PE	VTX-2.5/3 VTX-2.5/4-PE
		VTX-4	VTX-4/2 VTX-4/3-PE VTXW-4/2	VTX-4/2-PE VTX-4/4 VTXW-4/2-PE	VTX-4/3 VTX-4/4-PE

GTY18

Material: SPCC
Weight: 20g
Sales lot: 50



Name Plate



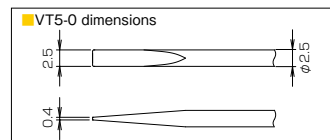
Order No.	Dimensions	Weight	Sales lot
AP-6.5	0.5t×6.5w×900L	4.5g/1pcs	50pcs
AR-6.5(25)	0.5t×6.5w×25(m)L	130g	1roll
AR-6.5(100)	0.5t×6.5w×100(m)L	470g	1roll
AM-10	0.5t×10w×1200L	9g/1pcs	50pcs
AR-10(25)	0.5t×10w×25(m)L	200g	1roll
AR-10(100)	0.5t×10w×100(m)L	770g	1roll

Recommended Tools

※ If use screwdrivers other than the ones below, use the screwdrivers comply with DIN5264.

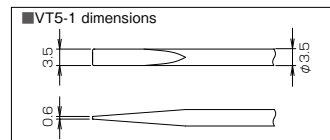
● Screwdriver VT5-0 (Weight: 40g)

※ VTX-1.5series



● Screwdriver VT5-1 (Weight: 43g)

※ VTX-2.5series, VTX-4series



Rail



DAV & DAS series compliant with IEC60715/DIN46277, standardized dimension width 35mm.

■ Order No.

DAV4-1000

↑ : Length of rail
↑ : Name of series

series	Rail length(L)	Sales lot
DAV4	1000mm or 2000mm	1000mm=100pcs 2000mm=50pcs
DAS4		
DAV5		
DAS5		

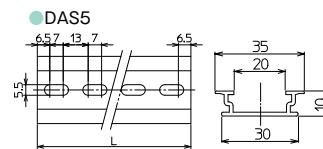
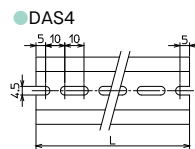
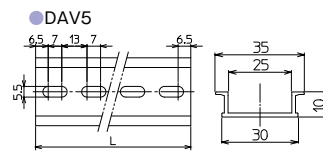
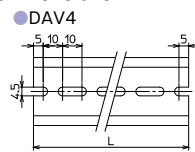
● DAV series



● DAS series



■ Dimensions



※ Rails used as ground conductors

- DAV4 (KIJI) -1000 / 2000
- DAV5 (KIJI) -1000 / 2000

Flat Tube

■ Order No. **TMC-□**

- Inner diameter
- 1.5 : φ 2.0
 - 2 : φ 2.3
 - 3 : φ 3.9
 - 4 : φ 4.5
 - 7 : φ 7.3

Ambient temperature : -10°C ~ +60°C

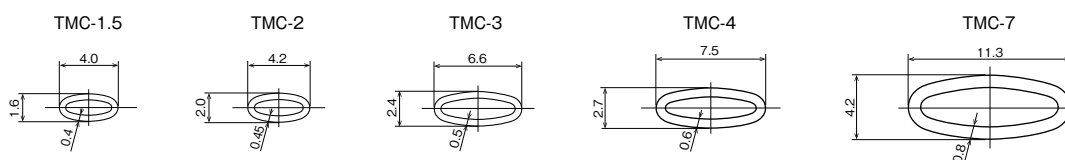
- Rating
- Insulation resistance: 1,000MΩ or more
 - Withstand voltage: 5,000/min



Part No.	Inner diameter	Applicable wire	Color	Material	1 roll/case	Sales lot
TMC-1.5 (BTO)	φ 2.0	AWG28~22 (0.08mm~0.34mm)	White (standard) Black Red Blue Green Yellow	Flexible polyvinyl chloride	200m/roll	1 case
TMC-2	φ 2.3	AWG26~18 (0.12mm~0.75mm)				
TMC-3	φ 3.9	AWG22~14 (0.34mm~2mm)				
TMC-4	φ 4.5	AWG18~12 (0.75mm~3.5mm)				
TMC-7	φ 7.3	AWG12~8 (3.5mm~8mm)			100m/roll	

※ Flat tubes in black, red, blue, green and yellow are BTO items. (Sales lot: 5 rolls)

■ Dimensions



References

Spring-Lock Terminal Block Reliability Test

The electrical and mechanical performances of VTX series terminal block are proven by the bending test and the pull-out test accordance with IEC/JIS standard, and the vibration test and the shock test accordance with NECA C 2811.

Bending Test: Flexion Test

IEC60947-7-1/-2
JIS C 8201-7-1/-2

A vertically fixed terminal block is connected to a wire and a test weight corresponding to the cross section is attached at the end of the wire.
The wire turned about 135 times in a row, at a rate of 10 ± 2 turns/min.



Cross section		Mass
mm ²	AWG	kg
0.2	24	0.2
0.34	22	0.2
0.5	20	0.3
0.75	18	0.4
1		0.4
1.5	16	0.4
2.5	14	0.7
4	12	0.9

Pull-out Test

IEC60947-7-1/-2
JIS C 8201-7-1/-2

After Bending/Flexion test, the terminal point must withstand a given tensile force based on the cross section for 60 seconds.

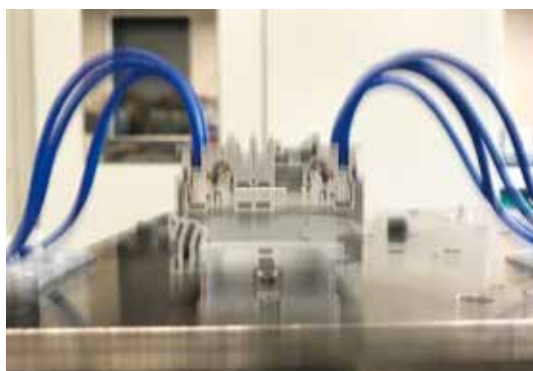


Cross section		Tensile force
mm ²	AWG	N
0.2	24	10
0.34	22	15
0.5	20	20
0.75	18	30
1		35
1.5	16	40
2.5	14	50
4	12	60

Vibration Test

NECA C 2811

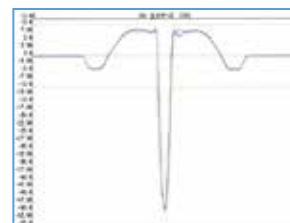
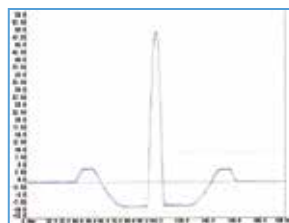
Frequency range: 10-55Hz
Sweep time:1min.
The test objects are tested for 2 hours on each of the three axes (X, Y, Z) and monitored with OSC for electric contact confirmation.
No contact interruptions $> 1 \mu s$ are permitted during the test.



Shock Test

NECA C 2811

Maximum accelerations: 490m/s² (50G)
The test objects are tested with a shock duration of 11ms on each of the six axes ($\pm X$, $\pm Y$, $\pm Z$) 5 times each and monitored with OSC for electric contact confirmation.
No contact interruptions $> 1 \mu s$ are permitted during the test.



■ Ferrule

Ferrule

DIN-compliant Ferrules with insulating sleeves

l₁ = Total length
 l₂ = Conductive part length
 d₁ = Inner diameter of conductive part
 s₁ = Wall thickness of conductive part
 d₂ = Inner diameter of insulating sleeve
 s₂ = Wall thickness of insulating sleeve

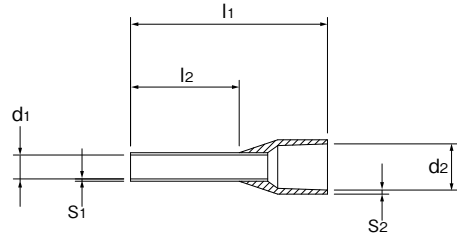


Image	Electric wire cross section			Color range of insulating sleeve		Part No.	Sales Lot (pcs/pkg.)	l ₁ +0.5 -0	l ₂ ±0.2	d ₁ +0 -0.05	s ₁	d ₂ +0.1 -0	s ₂ +0 -0.05	Recommended stripping length mm
	mm ²	mm ²	AWG	Color	Color code									
	0.14	/	26	GY	D/W	TA0.14-8GY	100	12	8	0.8	0.15	1.9	0.3	10
	0.25	/	26-24	BU	W	TA0.25-6BU	100	10	6	0.8	0.15	1.9	0.3	8
	0.25	/	26-24	BU	W	TA0.25-8BU	100	12	8	0.8	0.15	1.9	0.3	10
	0.25	/	26-24	BU	W	TA0.25-12BU	100	16	12	0.8	0.15	1.9	0.3	14
	0.25	/	26-24	YE	D	TA0.25-8YE	100	12	8	0.8	0.15	1.9	0.3	10
	0.25	/	26-24	YE	D	TA0.25-10YE	100	14	10	0.8	0.15	1.9	0.3	12
	0.34	/	24-22	TQ	D/W	TA0.34-6TQ	100	10	6	0.8	0.15	1.9	0.3	8
	0.34	/	24-22	TQ	D/W	TA0.34-8TQ	100	12	8	0.8	0.15	1.9	0.3	10
	0.34	/	24-22	TQ	D/W	TA0.34-10TQ	100	14	10	0.8	0.15	1.9	0.3	12
	0.34	/	24-22	TQ	D/W	TA0.34-12TQ	100	16	12	0.8	0.15	1.9	0.3	14
	0.5 (0.5)	/	20	WH	D	TA0.5-6WH	100	12	6	1.1	0.15	2.4	0.3	9
	0.5 (0.5)	/	20	WH	D	TA0.5-8WH	100	14	8	1.1	0.15	2.4	0.3	11
	0.5 (0.5)	/	20	WH	D	TA0.5-10WH	100	16	10	1.1	0.15	2.4	0.3	13
	0.5 (0.5)	/	20	WH	D	TA0.5-12WH	100	18	12	1.1	0.15	2.4	0.3	15
	0.5 (0.5)	/	20	OG	W	TA0.5-10OG	100	16	10	1.1	0.15	2.4	0.3	13
	0.75 (0.75)	/	20-18	GY	D	TA0.75-6GY	100	12	6	1.3	0.15	2.7	0.3	9
	0.75 (0.75)	/	20-18	GY	D	TA0.75-8GY	100	14	8	1.3	0.15	2.7	0.3	11
	0.75 (0.75)	/	20-18	GY	D	TA0.75-10GY	100	16	10	1.3	0.15	2.7	0.3	13
	0.75 (0.75)	/	20-18	GY	D	TA0.75-12GY	100	18	12	1.3	0.15	2.7	0.3	15
	0.75 (0.75)	/	20-18	WH	W	TA0.75-10WH	100	16	10	1.3	0.15	2.7	0.3	13
	1	/	18	RD	D	TA1-6RD	100	12	6	1.5	0.15	2.9	0.3	9
	1	/	18	RD	D	TA1-8RD	100	14	8	1.5	0.15	2.9	0.3	11
	1	/	18	RD	D	TA1-10RD	100	16	10	1.5	0.15	2.9	0.3	13
	1	/	18	RD	D	TA1-12RD	100	18	12	1.5	0.15	2.9	0.3	15
	1	/	18	YE	W	TA1-10YE	100	16	10	1.5	0.15	2.9	0.3	13
	1.5 (1.25)	/	16	BK	D	TA1.5-6BK	100	12	6	1.8	0.15	3.3	0.3	9
	1.5 (1.25)	/	16	BK	D	TA1.5-8BK	100	14	8	1.8	0.15	3.3	0.3	11
	1.5 (1.25)	/	16	BK	D	TA1.5-10BK	100	16.5	10	1.8	0.15	3.3	0.3	13
	1.5 (1.25)	/	16	BK	D	TA1.5-12BK	100	18.5	12	1.8	0.15	3.3	0.3	15
	1.5 (1.25)	/	16	RD	W	TA1.5-10RD	100	16.5	10	1.8	0.15	3.3	0.3	13
	2.5 (2)	/	14	BU	D/W	TA2.5-8BU	100	14.5	8	2.3	0.15	4.1	0.3	11
	2.5 (2)	/	14	BU	D/W	TA2.5-10BU	100	17	10	2.3	0.15	4.1	0.3	13
	2.5 (2)	/	14	BU	D/W	TA2.5-12BU	100	18.5	12	2.3	0.15	4.1	0.3	15
	4 (3.5)	/	12	GY	D/W	TA4-10GY	100	17	10	2.9	0.2	4.7	0.3	13
	4 (3.5)	/	12	GY	D/W	TA4-12GY	100	19	12	2.9	0.2	4.7	0.3	15
	6 (5.5)	/	10	YE	D/W	TA6-12YE	100	20	12	3.6	0.2	6.1	0.3	15
	6 (5.5)	/	10	BK	W	TA6-12BK	100	20	12	3.6	0.2	6.1	0.3	15
	10 (8)	/	8	RD	D	TA10-12RD	100	21.5	12	4.6	0.2	7.4	0.3	15
	10 (8)	/	8	RD	D	TA10-18RD	100	27.5	18	4.6	0.2	7.4	0.3	21
	16 (14)	/	6	BU	D	TA16-12BU	100	23.5	12	6	0.2	8.7	0.4	16
	16 (14)	/	6	BU	D	TA16-18BU	100	28.5	18	6	0.2	8.7	0.4	22

* () = JIS standard cross section area

Material: E-CU
 Surface treatment: Tin plating
 Insulating sleeve: PP
 Heatproof temperature: 105°C

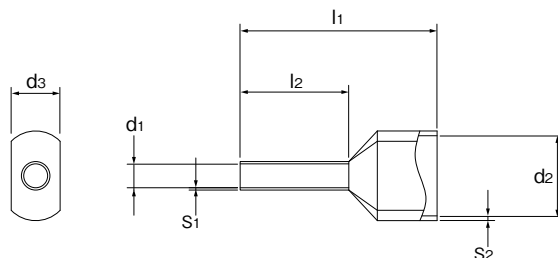
● Color:

GY	BK	BU	YE	TQ	WH	RD	OG
Gray	Black	Blue	Yellow	Turquoise	White	Red	Orange

● Color code: D=DIN46228-4
 W=Weidmüller standard

TWIN Ferrules

※TWIN ferrules can crimp two equally sized wires in one ferrule.



Electric wire cross section				Color range of insulating sleeve		Part No.	Sales Lot (pcs/pkg.)	l ₁ +0.5 -0	l ₂ ±0.2	d ₁ +0 -0.05	S ₁	d ₂ +0.1 -0	d ₃	S ₂ +0 -0.05	Recommended stripping length mm
mm ²	mm ²	/	AWG	Color	Color code										
2 x 0.5	(2 x 0.5)	/	2 x 20	WH	D	TAW0.5-8WH	100	15	8	1.5	0.15	4.6	2.4	0.3	11
2 x 0.5	(2 x 0.5)	/	2 x 20	WH	D	TAW0.5-10WH	100	17	10	1.5	0.15	4.6	2.4	0.3	13
2 x 0.75	(2 x 0.75)	/	2 x 20	GY	D	TAW0.75-8GY	100	15	8	1.8	0.15	5.1	2.7	0.3	12
			2 x 18												
2 x 0.75	(2 x 0.75)	/	2 x 20	GY	D	TAW0.75-10GY	100	17	10	1.8	0.15	5.1	2.7	0.3	14
			2 x 18												
2 x 1	(2 x 1.25)	/	2 x 18	RD	D	TAW1-8RD	100	15	8	2.05	0.15	5.3	3.3	0.3	12
2 x 1	(2 x 1.25)	/	2 x 18	RD	D	TAW1-10RD	100	17	10	2.05	0.15	5.3	3.3	0.3	14
2 x 1.5	(2 x 1.25)	/	2 x 16	BK	D	TAW1.5-8BK	100	16	8	2.3	0.15	6.5	3.5	0.3	12
			2 x 16												
2 x 1.5	(2 x 2)	/	2 x 16	BK	D	TAW1.5-10BK	100	18	10	2.3	0.15	6.5	3.5	0.3	14
			2 x 16												
2 x 1.5	(2 x 2)	/	2 x 16	BK	D	TAW1.5-12BK	100	20	12	2.3	0.15	6.5	3.5	0.3	16
2 x 2.5		/	2 x 14	BU	D	TAW2.5-10BU	100	18.5	10	2.9	0.2	7.7	4.1	0.3	14
			2 x 14												
2 x 2.5		/	2 x 14	BU	D	TAW2.5-13BU	100	21.5	13	2.9	0.2	7.7	4.1	0.3	17

※ () = JIS standard cross section area

Material: E-CU

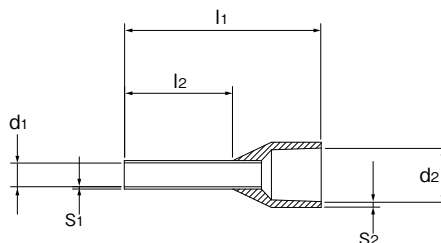
Surface treatment: Tin plating

Insulating sleeve: PP

Heatproof temperature: 105°C

GB type Ferrules with insulating sleeve

GB type is for wires with thick insulating cover such as UL standard wires.



Electric wire cross section				Color range of insulating sleeve		Part No.	Sales Lot (pcs/pkg.)	l ₁ +0.5 -0	l ₂ ±0.2	d ₁ +0 -0.05	S ₁	d ₂ +0.1 -0	S ₂ +0 -0.05	Recommended stripping length mm
mm ²	mm ²	/	AWG	Color	Color code									
0.5	(0.5)	/	20	WH	D	TA0.5-8WH-GB	100	14	8	1.1	0.15	2.9	0.3	11
0.5	(0.5)	/	20	WH	D	TA0.5-10WH-GB	100	16	10	1.1	0.15	2.9	0.3	13
0.75	(0.75)	/	20-18	GY	D	TA0.75-8GY-GB	100	14	8	1.3	0.15	3.3	0.3	11
			20-18											
0.75	(0.75)	/	20-18	GY	D	TA0.75-10GY-GB	100	16	10	1.3	0.15	3.3	0.3	13
1		/	18	RD	D	TA1-8RD-GB	100	14	8	1.5	0.15	3.3	0.3	11
			18											
1		/	18	RD	D	TA1-10RD-GB	100	16	10	1.5	0.15	3.3	0.3	13
1.5	(1.25)	/	16	BK	D	TA1.5-8BK-GB	100	14	8	1.8	0.15	3.7	0.3	11
			16											
1.5	(1.25)	/	16	BK	D	TA1.5-10BK-GB	100	16	10	1.8	0.15	3.7	0.3	13

※ () = JIS standard cross section area

Material: E-CU

Surface treatment: Tin plating

Insulating sleeve: PP

Heatproof temperature: 105°C

● Color:

GY	BK	BU	YE	TQ	WH	RD	OG
Gray	Black	Blue	Yellow	Turquoise	White	Red	Orange

● Color code: D=DIN46228-4

W=Weidmüller standard

Crimping Pliers for Ferrules

TA-540

- Wide crimping range
- Ratchet devices allow stable high quality of operation
- Ergonomically designed handles



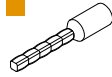
① Insert the conductive part of ferrules all the way into the square socket.



② Grip the handles till the ratchet releases automatically.



When crimping large cross sections like 16mm² (AWG5), adjust the knob to the position "16", it allows more efficient and comfortable crimping works.

Part No.	Applicable wire range	Crimped figure	Weight
TA-540	0.14mm ² ~16mm ² AWG26~AWG5		420g

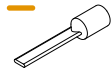
TA-210

- Crimping plier for fine wires 0.08mm²-0.34mm²
- Ratchet devices allow stable high quality of operation


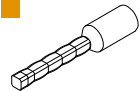




Place the wire on the right position.



Part No.	Applicable wire range	Crimped figure	Weight
TA-210	0.08mm ² ~0.34mm ² AWG28~AWG22		340g

Other Crimping Pliers (Back order items)

	Part No.	Applicable wire range	Crimping shape	Weight
CEB0160S		0.14mm ² ~6mm ² AWG26~AWG10		370g
CEB1025		10mm ² ~25mm ² AWG8~AWG4		515g

Crimping Pliers Compatibility Table

Electric wire cross section			Ferrules (Ferrules with insulating sleeves GB type Ferrules with insulating sleeve TWIN Ferrules)	TA-540	TA-210	CEB0160S	CEB1025
mm ²	/	AWG					
0.08 (0.08)	/	28	TA0.14-8GY TA0.34-※TQ TA0.25-※※	—	○	—	—
0.14 (0.12)	/	26	TA0.14-8GY TA0.34-※TQ TA0.25-※※	○	○	○	—
0.25 (0.2)	/	24	TA0.14-8GY TA0.34-※TQ TA0.25-※※	○	○	○	—
0.34 (0.3)	/	22	TA0.14-8GY TA0.34-※TQ TA0.25-※※	○	○	○	—
0.5 (0.5)	/	20	TA0.5-※※ TA0.5-※WH-GB	○	—	○	—
0.75 (0.75)	/	18	TA0.75-※※ TA0.75-※GY-GB	○	—	○	—
1	/	18	TA1-※※ TA1-※RD-GB	○	—	○	—
1.5 (1.25)	/	16	TA1.5-※※ TA1.5-※BK-GB	○	—	○	—
2.5 (2)	/	14	TA2.5-※BU	○	—	○	—
4 (3.5)	/	12	TA4-※GY	○	—	○	—
6 (5.5)	/	10	TA6-12※	○	—	○	—
10(8)	/	8	TA10-12RD	○	—	—	○
16(14)	/	6	TA16-12BU	○	—	—	○
2×0.5 (2×0.5)	/		TAW0.5-※WH	○	—	○	—
2×0.75 (2×0.75)	/		TAW0.75-※GY	○	—	○	—
2×1	/		TAW1-※RD	○	—	○	—
2×1.5 (2×1.25)	/		TAW1.5-※BK	○	—	○	—
2×2.5 (2×2)	/		TAW2.5-※BU	○	—	○	—

※ () =JIS standard cross section area

■Crimping Guide

①Strip an electric wire (refer to the "Recommended stripping length" on p.19-p.20)	②Insert the stripped wire into a ferrule, crimp the conductive part with an applicable crimping plier.	③Cut electric wire sticks out from the ferrule in 0-0.5mm.

- ※Please be careful not wound electric wires when stripping them.
- ※Grip the handles of a crimping plier till the ratchet releases automatically.
- ※Pull the wire lightly to make sure that the wire do not slip out from the ferrule before connecting it to devices.

◆Bad examples of crimping

- A. Wires folded inside of a ferrule
- B. Wires stick out from a ferrule is too long.
- C. Wires inserted into a ferrule only half way and crimped, so the wires are exposed.
- D. Stripping length is not enough so the wires are not inserted into a ferrule to the tip.
- E. Only the tip is crimped.
- F. Two wires crimped into a single ferrule.
- G. Electric wires have breaks or wounds.

