

2DIREKT: Safe and simple cable connections to transformer

Transformer connection terminals are being used more and more along the path power takes from the energy supplier to the end consumer. An innovative terminal produced by PFISTERER Kontaktsysteme GmbH, combines a range of advantages in one compact, economical solution.



Direct connection: Three advantages

Transformer connection terminals are being used more and more to connect low voltage cables to transformers because of their practical, safety-related advantages. This also applies to the 2DIREKT terminal by PFISTERER Kontaktsysteme GmbH based in Winterbach. Unlike traditional connection methods, with the 2DIREKT terminal the conductor is connected directly to the equipment. This is done without the tedious process of pressing on cable lugs and without the time-consuming fixing of core end sleeves onto fine-stranded conductors. This reduces both: installation costs and the risk of faulty connections. The low number of contact points also reduces the risk of increasing contact resistances when the equipment is operated for many years. Just a glance inside the 2DIREKT terminal reveals the technical finesse behind the design.

Patented connection system

The patented conductor connection system prevents the fine-stranded single conductors from shearing off: The clamping screw is fitted to the foot with a flexible disc. When the screw is tightened this disc breaks off at its predetermined breaking point and remains centred on a pin while the screw is tightened further until it reaches the ideal clamping force. In this way fine-stranded and small conductors can be clamped securely without the risk of being damaged by the effect of the screw force. At the same time the disc balances all operating loads and makes the previously necessary bulky frame structures for additional shock absorber systems superfluous. This in turn ensures the particularly compact design of the PFISTERER transformer connection terminal.

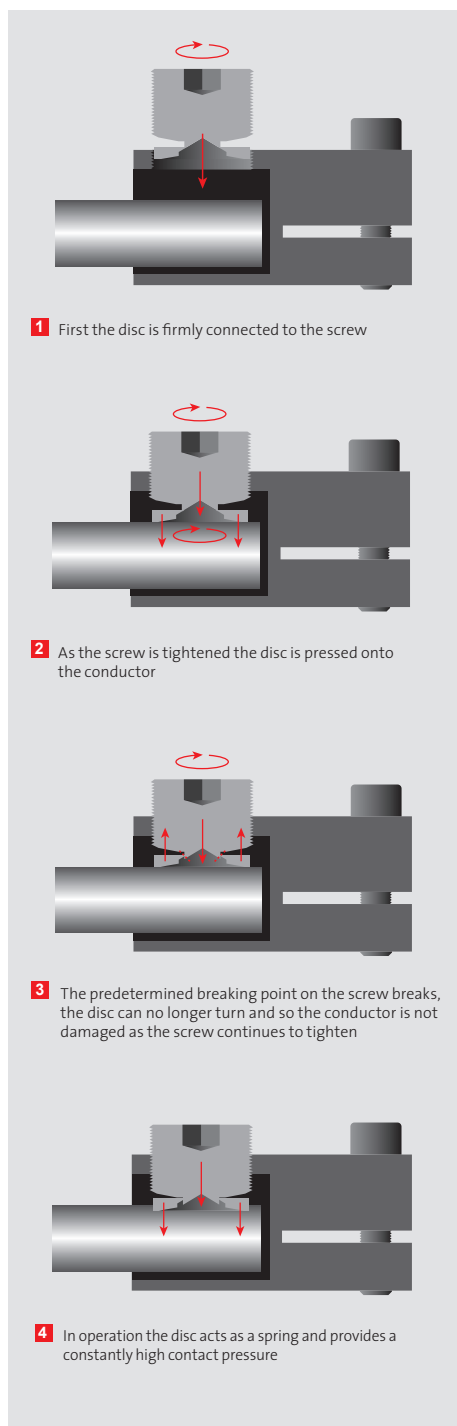
Two types of terminal in one housing

As the product name also shows, 2DIREKT combines two types of terminal in one

housing. The clamping screw terminal channel and thread hole are identical so that the conductor can, if you wish, be connected offset 90 degrees, an important aspect when fitting in narrow spaces. Single conductor terminals are locked in position from below with a nut. All other designs can be fixed onto the bolt using a slotted clamp. The terminal and the screw can

Terminal types

- Single conductor terminal, locked into position
- Dual conductor terminal, with slotted clamp
- Four conductor terminal, with slotted clamp
- Six conductor terminal, with slotted clamp
- Eight conductor terminal, with slotted clamp



be used again. The body of the 2DIREKT terminals consists of high-strength aluminium alloy and is tin-plated. The screws are made of steel and are zinc-plated.

All cross sections at hand

The 2DIREKT terminal was designed as a product range covering all cross sections so that you always have the right connection terminal to hand. The single, dual, four and eight conductor variants of 2DIREKT terminals are used for the clamping range 35–240 mm²

for all types of cables and four and six conductor terminals of 2DIREKT XL are for cable sizes of 185–400 mm². Not only a practical solution but also an economical one: Fewer items means that users do not have to hold so much stock. All 2DIREKT connection terminals are type-checked in accordance with the latest international standard, IEC 61238.

Protective cover with test options

The following suitable protective covers are included in the range for comprehensive personal and operating safety. They make the connection made by the transformer terminal touch-proof, prevent contamination by dust and other micro bodies and protect it from inclement weather. For indoor use the cover and the terminal itself are designed for either horizontal or vertical conductor entry. There is a special cover with a horizontal outlet for outdoor use. All designs are in accordance with protection class IP 2X.

In spite of the cover any necessary checks can be carried out easily. For this purpose an opening was integrated into the indoor version of the 2DIREKT cover so that voltage tests can be performed without removing the cover. The cover that is



The compact 2DIREKT transformer terminal

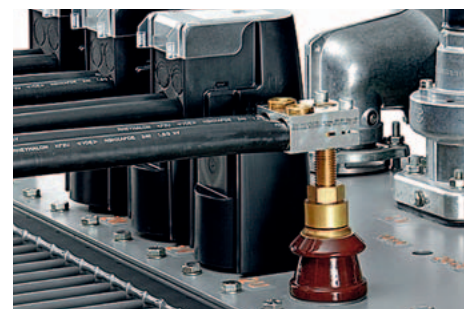


2DIREKT in a single, dual and four conductor version

Advantages

- Fine-stranded conductors can be connected without core cable ends
- Vertical or horizontal conductor connection
- Patented conductor connection system prevents individual wires from shearing off
- No compression needed. Can be fitted with standard tools.
- The terminal and the screw can be used again
- Clamping range 16–95 mm², 35–240 mm² or 185–400 mm²
- Available as single, dual, four, six and eight conductor terminal clamp
- Voltage check also possible with protective cover
- Simplified stock-holding

suitable for the open air allows visual checks to be made through a transparent cover during operation. No wonder the 2DIREKT terminal is winning over more and more users: Whether using aluminium or copper conductors, stranded or fine stranded, low voltage cables can easily be connected to transformers.



2DIREKT with protective covers for dual and four conductor terminals



The terminal and cover are also suitable for vertical cable design

2DIREKT S

No	Conductor Cross Section (mm ²)	Terminal Bolt (mm) d	Dimensions (mm)			Cover	
			l	w	h	For Indoor Use	For Indoor or Outdoor Use
Two Conductor Terminal Clamp (Side by Side)							
331 756 023	16 – 95	M8	44	54	26	–	–
331 756 020	16 – 95	M12	44	54	26	–	–
331 756 021	16 – 95	M16	44	54	26	–	–
331 756 022	16 – 95	M20	44	54	26	–	–
331 756 025	16 – 95	3/8"	44	54	26	–	–
331 756 026	16 – 95	1/2"	44	54	26	–	–
Two Conductor Terminal Clamp (L-Shape)							
331 756 004	16 – 95	M8	24	68	68	–	–
331 756 001	16 – 95	M12	24	68	68	–	–
331 756 002	16 – 95	M16	24	68	68	–	–
331 756 003	16 – 95	M20	24	68	68	–	–
331 756 006	16 – 95	3/8"	24	68	68	–	–
331 756 007	16 – 95	1/2"	24	68	68	–	–
Four Conductor Terminal Clamp							
331 756 013	16 – 95	M8	44	68	68	–	–
331 756 010	16 – 95	M12	44	68	68	–	–
331 756 011	16 – 95	M16	44	68	68	–	–
331 756 012	16 – 95	M20	44	68	68	–	–
331 756 015	16 – 95	3/8"	44	68	68	–	–
331 756 016	16 – 95	1/2"	44	68	68	–	–

2DIREKT

No	Conductor Cross Section (mm ²)	Terminal Bolt (mm) d	Dimensions (mm)			Cover	
			l	w	h	For Indoor Use	For Indoor or Outdoor Use
Single Conductor Terminal Clamp							
331 745 001	35 – 240	M12	64	30	34	331 345 001	331 345 002
331 745 003	35 – 240	M16	64	30	34	331 345 001	331 345 002
331 745 002	35 – 240	M20	64	30	34	331 345 001	331 345 002
Two Conductor Terminal Clamp							
331 746 004	35 – 240	M12	70	64	34	331 346 003	331 346 004
331 746 006	35 – 240	M16	70	64	34	331 346 001	331 346 002
331 746 003	35 – 240	M20	70	64	34	331 346 001	331 346 002
331 746 007	35 – 240	M20 x 1,5	70	64	34	331 346 001	331 346 002
331 746 002	35 – 240	M30 x 2	70	64	34	331 346 001	331 346 002
331 746 005	35 – 240	M48 x 3	84	64	34	331 346 002	331 346 002
Four Conductor Terminal Clamp							
331 747 005	35 – 240	M12	84	64	74	–	–
331 747 004	35 – 240	M20	84	64	74	331 347 001	331 347 002
331 747 006	35 – 240	M27 x 1,5	84	64	74	331 347 001	331 347 002
331 747 001	35 – 240	M30 x 2	84	64	74	331 347 001	331 347 002
331 747 007	35 – 240	M33 x 3	84	64	74	331 347 001	331 347 002
331 747 002	35 – 240	M42 x 3	84	64	74	331 347 001	331 347 002
331 747 003	35 – 240	M48 x 3	84	64	74	–	–
Six Conductor Terminal Clamp (horizontal cable entry only)							
331 749 002	185 – 400	M42 x 3	90	110	87	331 348 001	331 348 001
331 749 001	185 – 400	M48 x 3	90	110	87	331 348 001	331 348 001
Eight Conductor Terminal Clamp							
331 754 001	35 – 240	M42	84	132	74	331 348 002 and 614 556 002	331 348 002 and 614 556 002
331 754 002	35 – 240	M48	84	132	74	331 348 002 and 614 556 002	331 348 002 and 614 556 002

2DIREKT XL

No	Conductor Cross Section (mm ²)	Terminal Bolt (mm) d	Dimensions (mm)			Cover	
			l	w	h	For Indoor Use	For Indoor or Outdoor Use
Four Conductor Terminal Clamp							
331 752 001	185 – 400	M30 x 2	118	89	112	331 348 002 and 614 556 003	331 348 002 and 614 556 003
331 752 002	185 – 400	M42 x 3	118	89	112	331 348 002 and 614 556 003	331 348 002 and 614 556 003
331 752 003	185 – 400	M48 x 3	118	89	112	331 348 002 and 614 556 003	331 348 002 and 614 556 003
Six Conductor Terminal Clamp							
331 753 001	185 – 400	M42 x 3	118	127	112	31 348 002	331 348 002
331 753 002	185 – 400	M48 x 3	118	127	112	331 348 002	331 348 002
331 753 003	185 – 400	M55 x 3	118	127	112	331 348 001	331 348 002