



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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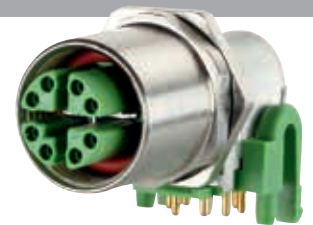
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U | Contact

Connection systems for printed circuit boards



Members of METZ CONNECT



# Innovative product systems – continuous connections

## 2015 | 2016

**U** | Contact

Connection systems  
for printed circuit boards

# The range of product catalogs from METZ CONNECT

By our range of product catalogs we really get things handy for you: concise information and highly interesting innovations across all our three product ranges **U|Contact**, **C|Logline** and **P|Cabling**.

Use our product range catalogs to learn more about our connection systems for printed circuit boards and devices, our intelligent system and switch cabinet components or our network cabling options.



**U|Contact**  
Printed circuit board and  
device connection techniques



**P|Cabling**  
Cabling solutions in the copper and  
fiber optic techniques for building  
and industrial cabling applications



**C|Logline**  
Intelligent components for  
systems and switch cabinets

# Table of contents

Preface/Company philosophy	5
----------------------------	---

## U | Contact

### PC board connectivity

1	PC board terminal blocks	17
2	Pin headers & female connectors	139
3	Board-to-board connectors	199
4	PCB jacks/plugs RJ/USB	225
5	PC board jacks Ethernet M12	273
6	Accessories	283
7	Cross range application solutions	300
8	Type- and Crosslist	303
9	Generic specifications	321
	Index	333
	Contact	344
	General remarks	348



Dear business partners, dear customers,

For the last few years, the METZ CONNECT group has already had a globally oriented growth strategy, in which the activities and processes of the METZ CONNECT companies and organisations had been brought together on a global level. This has given METZ CONNECT energy from the synergistic effects and the more slimline processes for putting into practice our vision of a "Connectivity Specialist" who offers high-quality connection technology for the modern world of communications – from the printed circuit board to the Internet.

Especially against the background of a constantly increasing global networking the focus lies – besides a consistent appearance of METZ CONNECT – on a global availability of METZ CONNECT products. Everything is growing together and borders are losing their importance. Industry 4.0 and Internet of Things (IoT) are the current topics that move the markets. Complex supply and production chains in the industry. Convenient, safe and energy efficient types of building automation (Smart Living). A smart traffic infrastructure. All this requires intelligent networking of the devices and components involved. METZ CONNECT is ready to accompany you as a competent partner: with our know-how and our standardized and customized system solutions for a consistently safe and smooth data and signal flow.

The existing METZ CONNECT product range with its diversified solutions has been expanded further, and the new products have now been integrated into the catalog. We have already informed you in our last catalog about the deliberate integration of our connection technology, in which we have divided our core competences into three core ranges:

- U|Contact** stands for the connection technologies related to printed circuit boards and devices,
- C|Logline** stands for intelligent system and switch cabinet components and
- P|Cabling** stands for cabling systems in the copper and fiber optic technologies for building and industrial cabling applications.

Our consistent connection technology and competent advice for a wide range of application solutions and customer requirements makes us the ideal partner for your demanding requirements. Let us jointly approach the projects in equipment and system construction, structured building and industrial wiring or as proven partner in wholesale distribution and support you in your daily work.

Make also use of our Internet appearance rich in contents and easy to understand. Here you will find a current overview of all novelties, products, including product-relevant documents, planning aids and mounting films. Visit us at [www.metz-connect.com](http://www.metz-connect.com) and see for yourself.

We are happy to meet the challenges that await us and are looking forward to advise and assist you as a real partner by our technically and economically sound solutions!



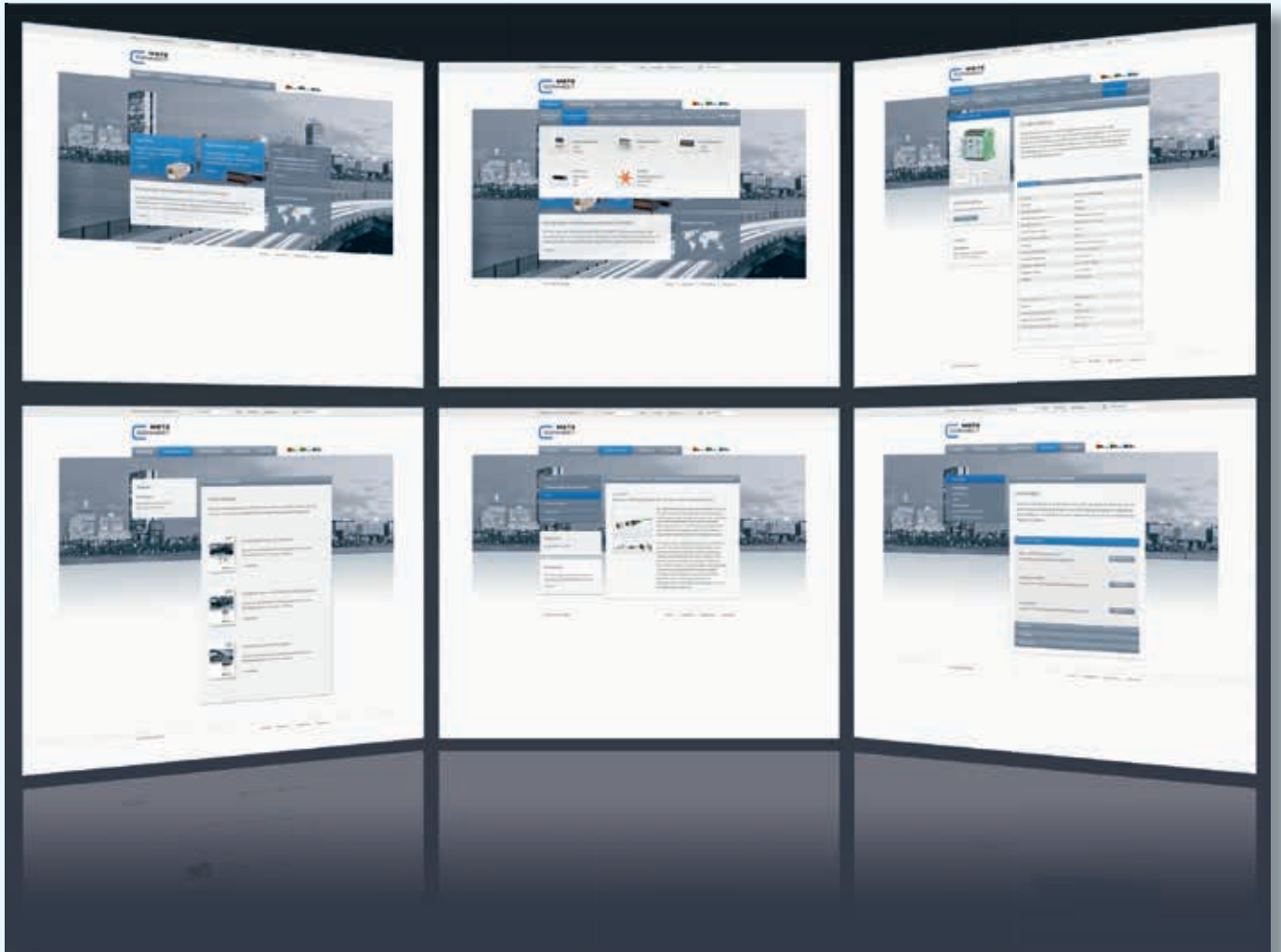
Your

**Jochen Metz**  
(Managing Partner)

**Christian Metz**  
(Managing Partner)

and the entire team from METZ CONNECT.





## Detailed knowledge in a matter of seconds

Our product catalogs offer detailed product descriptions. But if you want to get even deeper into the details, visit us at [www.metz-connect.com](http://www.metz-connect.com) to get precise technical information within no time at all.

To do so, you may also use mobile tagging: Simply scan the shown QR-code using your smartphone and you will directly be connected to the METZ CONNECT homepage.



# The most up-to-date connection to METZ CONNECT

## Our website for even more efficiency

Ideal user-friendliness and non-stop availability, – our website [www.metz-connect.com](http://www.metz-connect.com) offers you the most recent news about METZ CONNECT and our products that you need for your daily business. And all this at a speed that will really impress you!

### Our products

You may use different options to search for a product: the integrated navigation bar with its "Products" menu and concise structure, or the enterprise research option including its filter function or the online catalogs for all those, who wish to rely on our known product portfolio structure. A few clicks will lead you to the desired products and enable you to download all relevant documents such as data sheets, drawings or certificates. In the same time also compatible accessory components will be displayed.

Under "Services" a complete download overview will be shown presenting the entire download offer from information brochures and certificates up to test results and 3D-data.

### Your contacts

Finding your right contact with METZ CONNECT, a distributor or special dealer is easy and comfortable using the country and zip-code search options under "Contact". You can also select here your global sales partner.

### News(letter)

In our News area we inform you in real time on our product innovations, events and news.

In the same time you may want to subscribe to the METZ CONNECT newsletter. This will ensure that you will receive the latest information literally in real time directly on your computer.

Or just come and discover the web site of METZ CONNECT and play around with all its benefits – welcome to [www.metz-connect.com](http://www.metz-connect.com)!

# Limitless connection

Globally, the importance of networks is ever increasing. The principles of universal, transparent information – from everywhere and at any time – and a communication with devices mapping different processes – define more and more our everyday life. And all this depends on reliable connection techniques.

To establish perfect connections is the core competence of METZ CONNECT. The METZ CONNECT group of companies offers a complete product range that stands out by its maximum system compatibility and continuity.

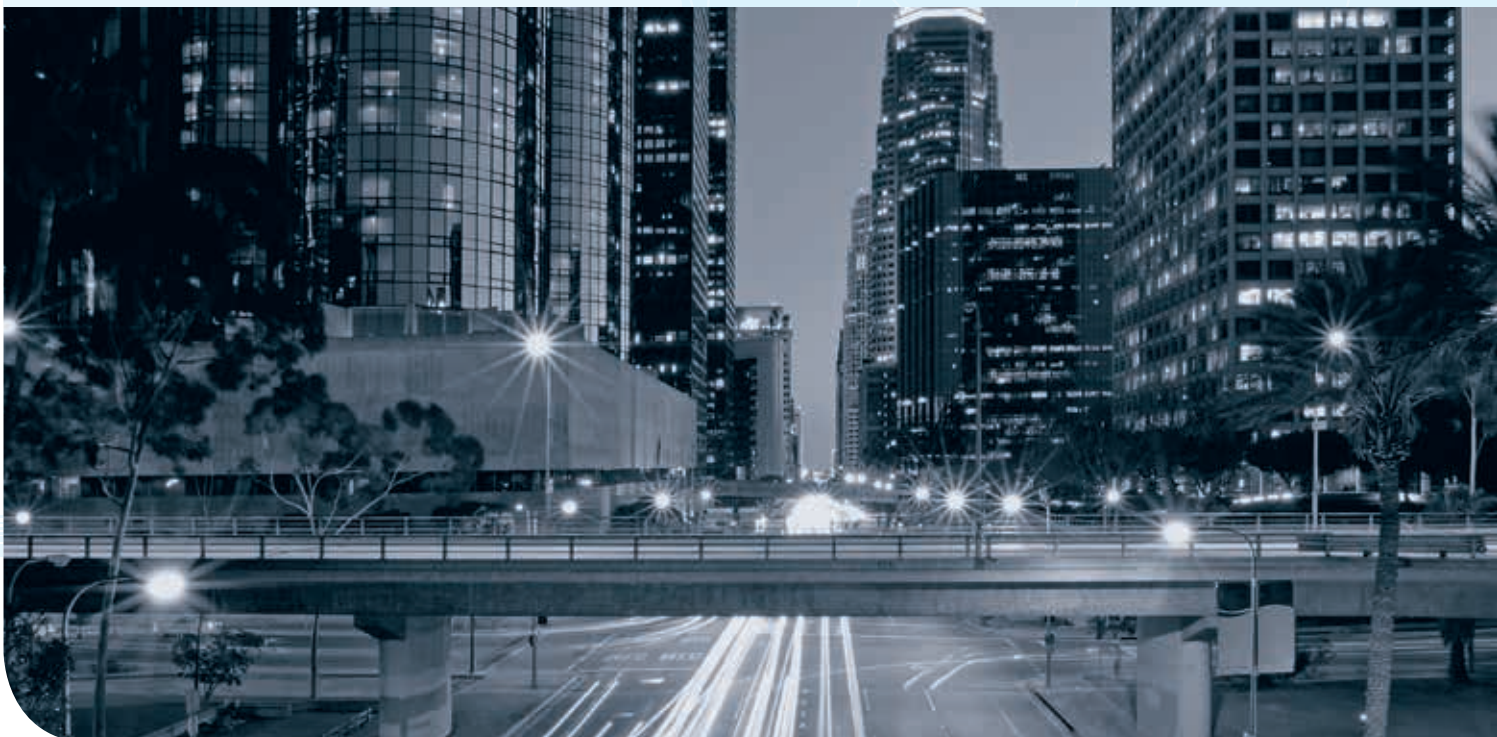
Our sophisticated portfolio and product approach in the market segments industrial electronics, data and communication technology and building services engineering guarantees smooth data flow from the printed circuit board through to connectors, cables and patch panels up to the infrastructural environment.

METZ CONNECT can thus guarantee a comprehensive, high-quality and transparent communication across all applications without system failures or performance losses. Next to the

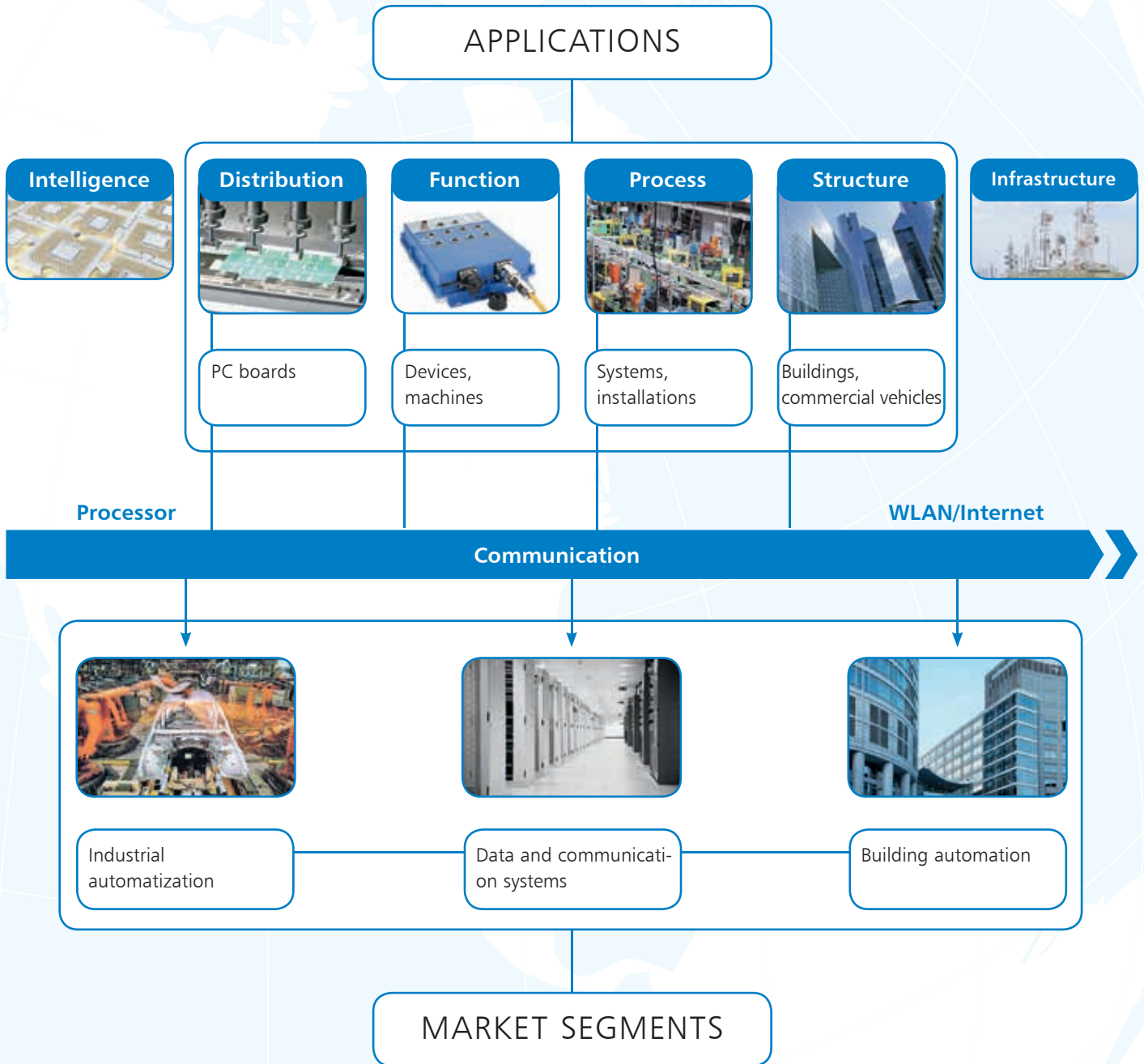
complete solutions, our group of companies offers also comprehensive services such as tailored product adaptations and new developments, qualified trainings, marketing support for our trade partners as well as a vast information program.

METZ CONNECT excels by quality – resulting from its intelligent company-internal value adds and perfectly harmonized processes from a product idea up to its delivery and commissioning. Our quality management system enables processes that are free from losses and protect the environment. An additional competitive advantage for our customers: METZ CONNECT supplies complete solutions as one single provider.

To do so, we rely on our own stamping shops, plastic mold injection and tooling shops, testing laboratories, internal assembly units and experts in construction and programming of tools and production automation.



# All from one single source – for your competitive advantage



# A product range, which connects everything

METZ CONNECT offers a universal range of products from printed circuit boards up to terminal devices. As your customer-oriented solutions partner, we subdivided our diversified, user-friendly and internationally standardized components and/or systems into three well structured arrays.

Under the name of **U|Contact** we bundle innovative connectivity products and solutions for printed circuit boards for a use with all modern techniques applied in the assembly of printed circuit boards. Products that are compatible with the standards of the markets as well as tailored product solutions for industrial controls and building automation are our core strengths in this field. This includes terminal blocks, board-to-board connectors as well as peripheral connectors (RJ, M12, USB) for different applications and protection classes.

**P|Cabling** includes highly specified, internationally standardized and powerful connection components and connection systems in the copper and fiber optic techniques. These solutions are used in structured building and industry cabling applications and for data centers. Convenient installation, maximum quality and perfect system compatibility across all important performance classes are the main characteristics of our modular inserts, connectors, wall outlets, patch panels, distributors, IP-protected plug connectors and patch and installation cables.

**C|Logline** stands for intelligent system components for a highly communicative and decentralized control in the application and product areas building automation, measurement and monitoring relays, interface modules, industrial relays and telecommunication.

In addition we offer cross range system solutions. Perfectly harmonized connection systems with a protection degree of IP67 facilitate fast, safe and flexible connections of devices using optical coupler, RJ45 or Ethernet M12 connections.



# Customer-oriented solutions provider

## U | Contact

Printed circuit board and  
device connection technology

Terminal blocks,  
pin headers



Connectors



Board-to-board



## C | Logline

Intelligent components

Bus modules



Ethernet I/Os



Components for  
electrical cabinets



## P | Cabling

Cabling systems  
Fiber Optic & copper

Connectors



Wall outlets,  
patch panels



Patch cords, lines



# Innovative product systems – continuous connections

U | Contact





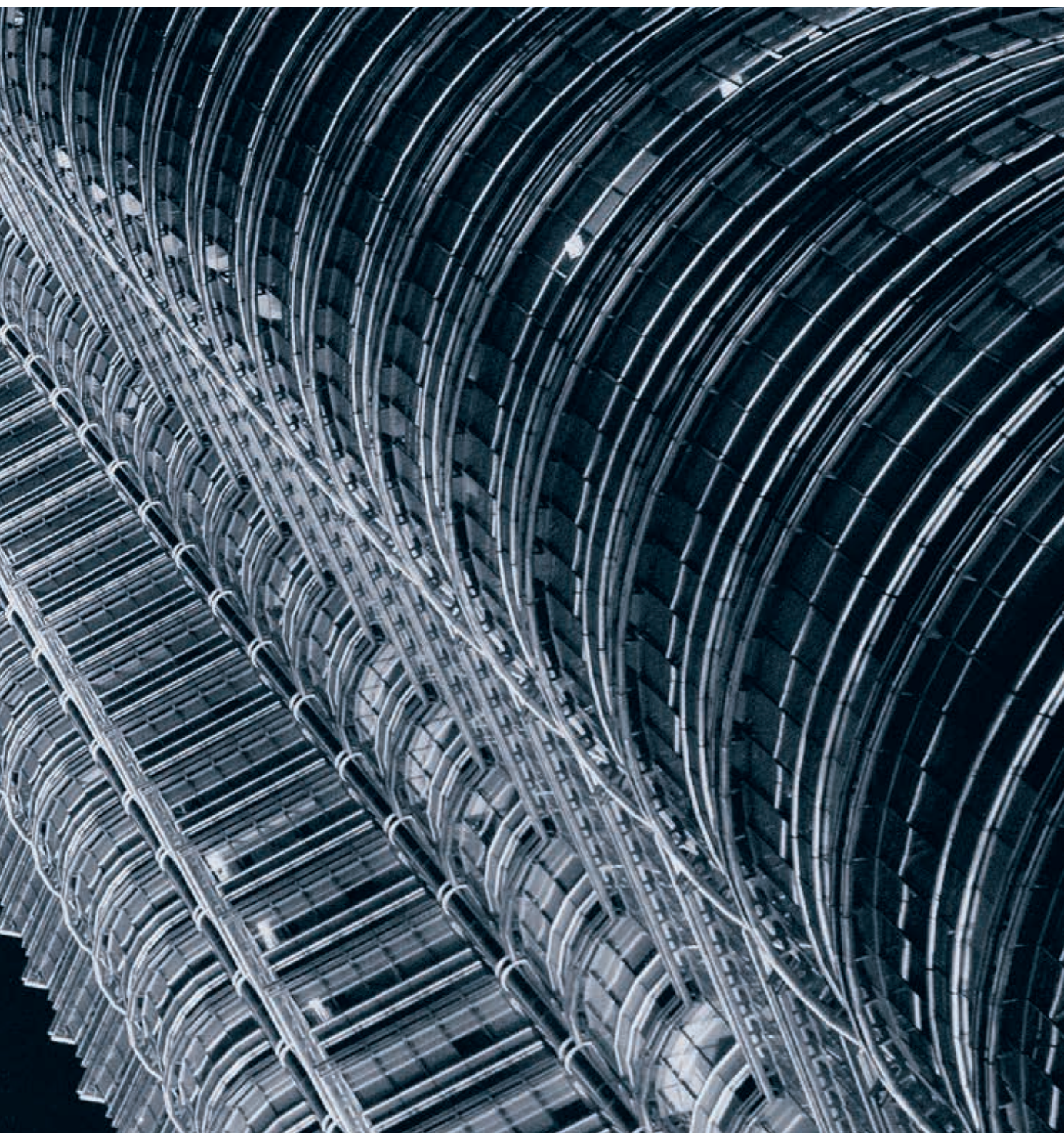
## PC board connectivity

U|Contact – innovative product systems for PC board connectivity

METZ CONNECT offers you connection systems for circuit boards and devices in a whole range of models. Continuous improvement and permanent extensions of our product portfolio tailored to connection systems for printed circuit boards and devices have earned us a reputation as trusted and safe partner.

Through its product range U|Contact METZ CONNECT offers continuous connections for all common techniques in the population of printed circuit boards. Products complying with the standards of the markets as well as customer-specific solutions and connection systems for devices geared to industrial electronics and building services engineering are our core competencies in this field.





# U|Contact product key

The product key for the U|Contact range of products offers customers a contemporary, uniform and easy-to-understand numbers system for all series of products.

The advantage: This product key describes the products according to their characteristics and thus creates transparency in the ordering and logistics processes.

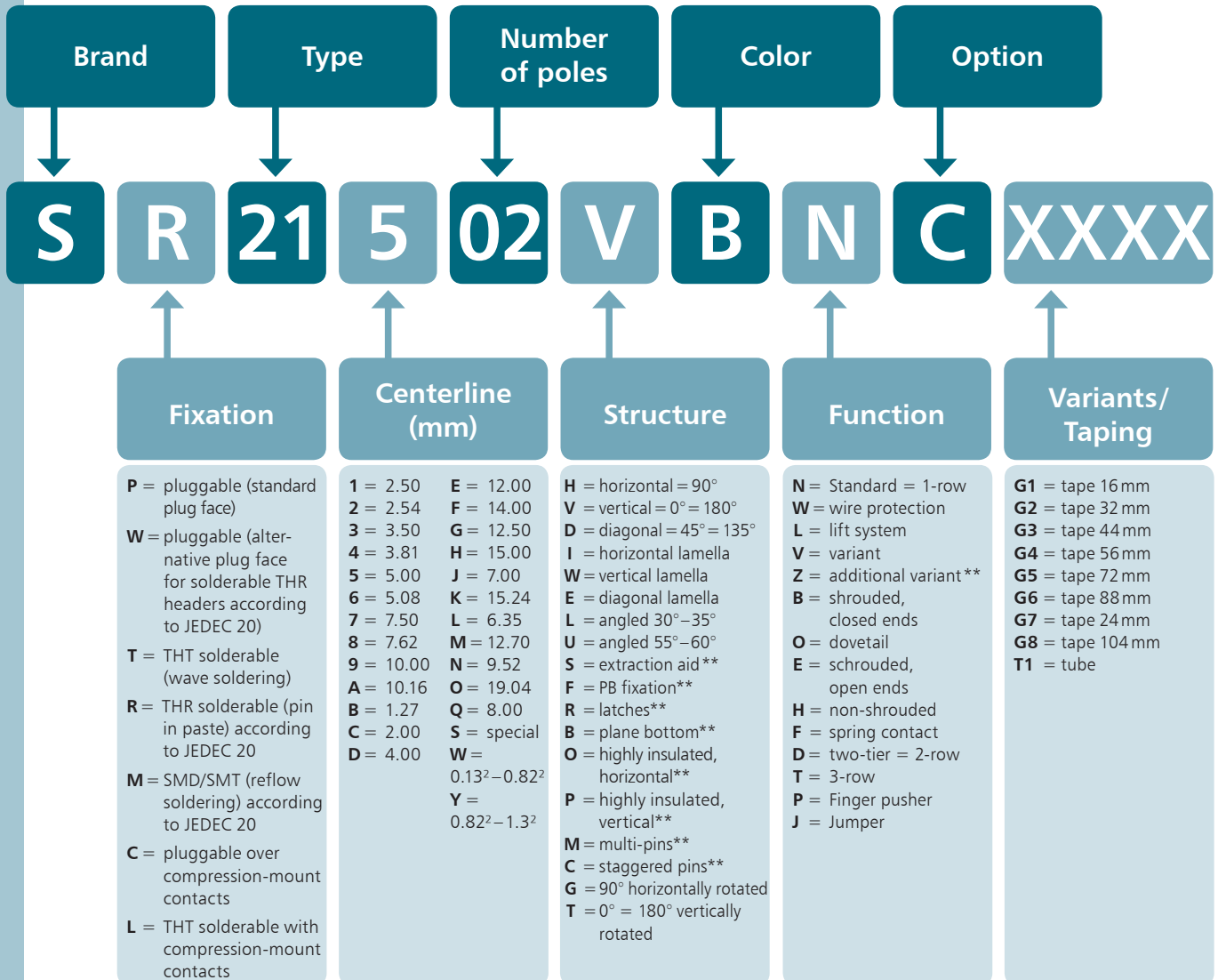
Product families provide for a plain overview of the components and allow you to quickly identify the product properties such as fixation, center line, number of positions, etc.

The variety of types has thus been reduced and combined to articles with identical features to make administration easier.

- R** = Screw-type terminal blocks
- P** = Pin headers
- S** = Spring clamp terminal blocks
- I** = Insulation displacement terminal blocks
- F** = Female connectors

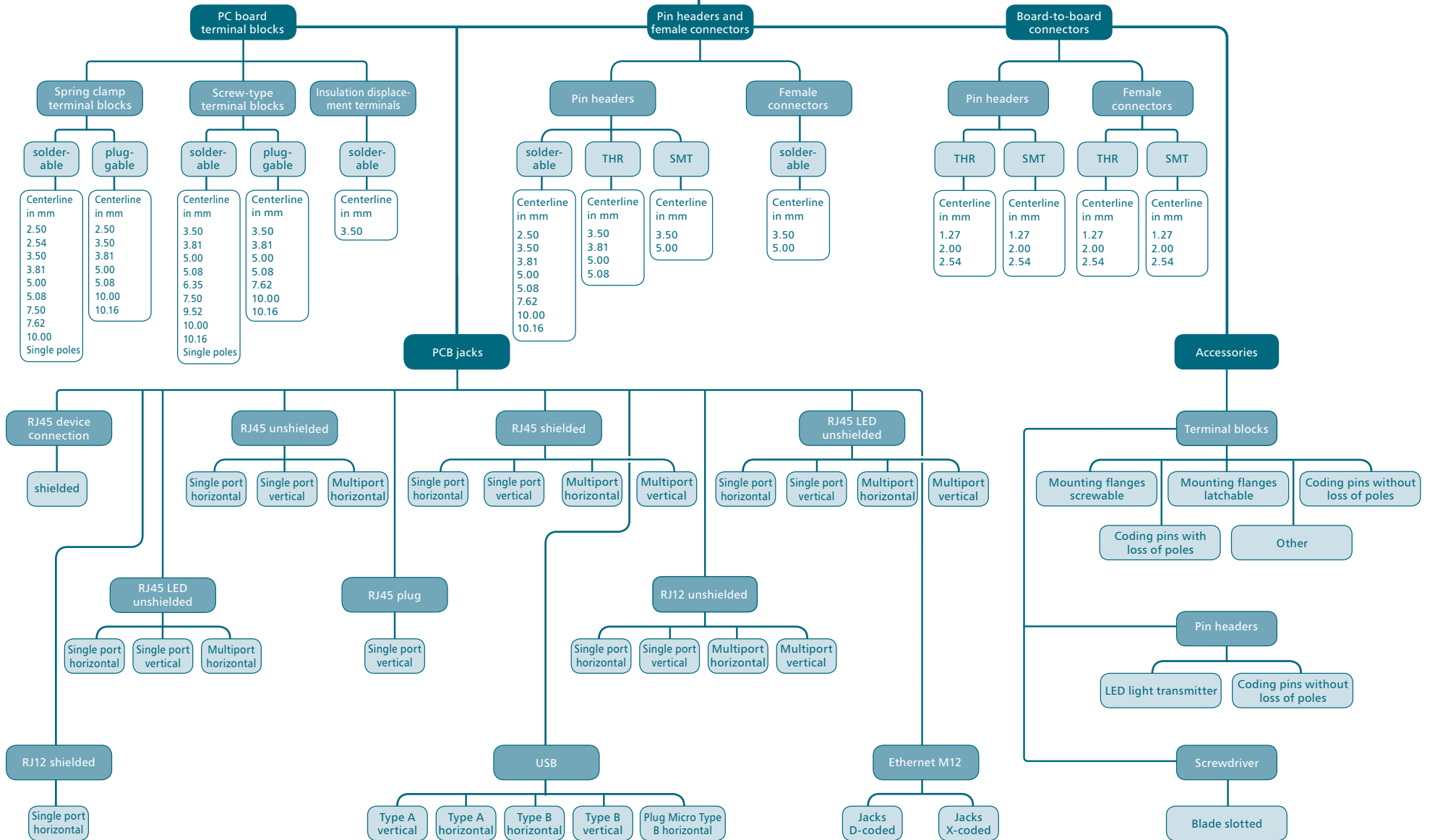
- B** = black
- G** = green
- R** = red
- O** = orange
- D** = gray
- W** = white
- Y** = yellow
- N** = nature
- H** = blue
- E** = brown
- V** = violet
- X** = colorless
- M** = multi-color

- N** = normal, wire feed non-codeable side
- O** = normal, wire feed codeable side
- F** = flange, wire feed non-codeable side
- S** = flange, wire feed codeable side
- U** = sequencing possible\*, wire feed non-codeable side
- V** = sequencing possible\*, wire feed codeable side
- C** = fittable\*, wire feed non-codeable side
- D** = fittable\*, wire feed codeable side
- L** = connection left-hand side
- R** = connection right-hand side
- T** = flat design
- Z** = micro sd card slot
- H** = two body material



\* Sequencing possible means the mechanical sequencing without loss of poles (by dovetails) | Fittable stands for a loose sequencing without loss of poles (without dovetails)

\*\* Only applicable if two variants are available.



### PC board terminal blocks

1	Overview PC board terminal blocks	18
2	Spring clamp terminal blocks	20
3	Screw type terminal blocks	66
4	IDC type terminal blocks	134

# PC board terminal blocks



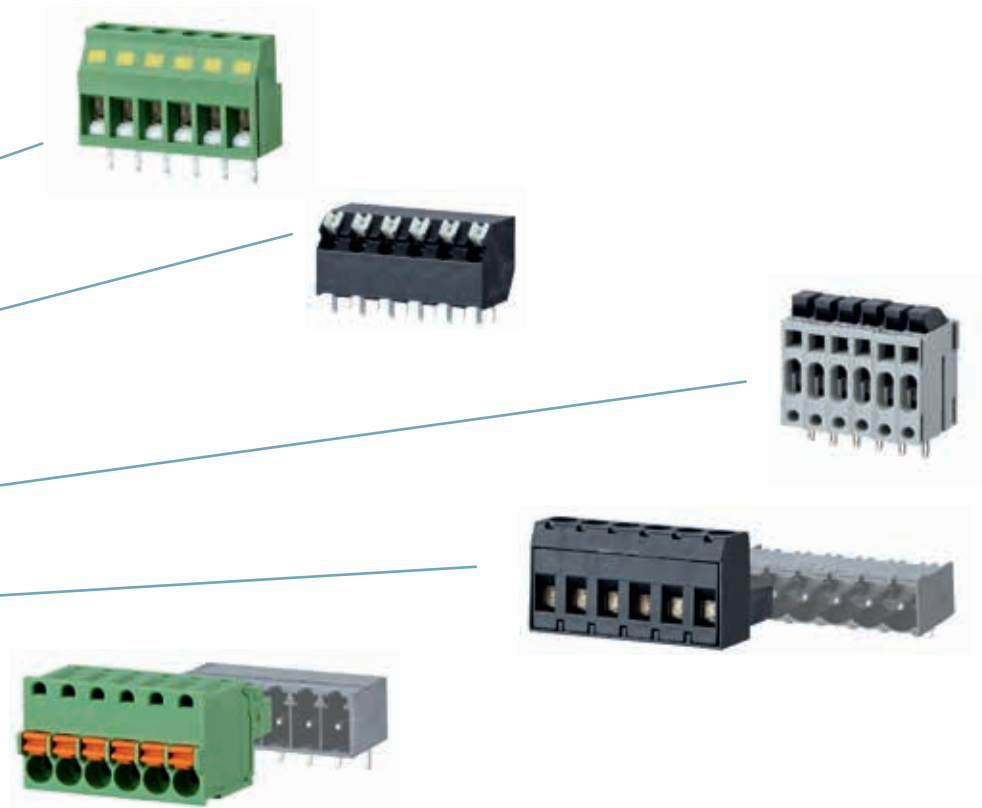
## PC board terminal blocks

**Tried and tested** – METZ CONNECT has successfully marketed terminal blocks for printed circuit boards worldwide for decades. The portfolio incorporates products for signal and data streams, medium control streams and network connection terminals and output terminals.

**Complete** – a permanent expansion of the proven range as well as constant improvement and further development of our products are the declared goal in order to be able to offer you complete and high-quality solutions for your applications.

**All from one single source** – regardless of what you need in detail – products that result from joint developments, from design-in concepts based on existing or modified products or catalogs items – we will fully meet your demands in terms of PC board connectivity.

**Future-oriented** – in line with the market trends, our focus is on products that are also suitable for automated production. Whether it's designs for through-hole-reflow (THR) or surface mount technology (SMT) – we have the solution for you. We do of course also supply these products in the "Tape & Reel" packaging required for automation.



# Spring clamp terminal blocks

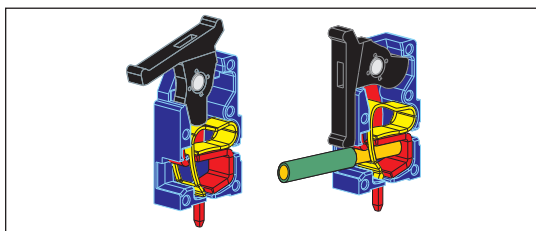
## Design specification

The **product family** consists of terminal blocks that are based on a spring clamp connection. By spring clamp connection, we mean an electrical connection that is created by clamping an individual of an individual, isolated conductor using a spring. It is suitable for solid wires and multi-wire strands of 0.08–2.5 mm<sup>2</sup> rated section and enables:

- direct terminal without pre-treatment of conductor
- direct terminal with splice protection
- indirect terminal via wire end sleeve or pin cable shoe

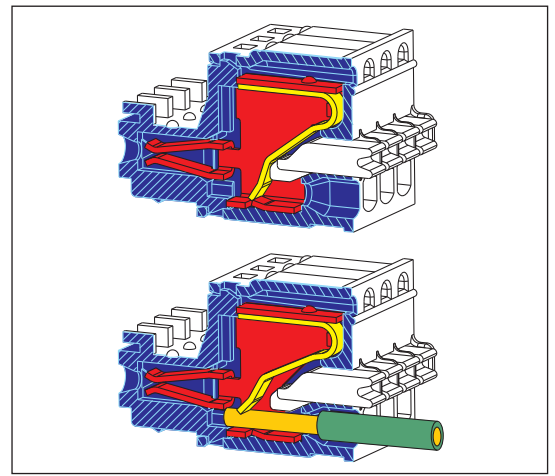
### Spring clamp terminal block with cage clamp (with and without eccentric lever)

- with eccentric lever open terminal chamber in the delivery status
- with eccentric lever tool-less connection of the conductors
- very short assembly times
- the closed power system inside the terminal block prevents pressure from being applied onto the circuit board at the time of connection
- gas-proof connection at the terminal point
- sequenceability of different colors
- can be installed in the housing
- the spring adapts automatically to changed conductor sections



### Spring clamp terminal block with leaf spring

- solid wires can be connected by simple insertion without actuation
- stranded wires and thin solid wires are connected using a standard screwdriver
- short assembly times
- gas-proof connection at the terminal point
- sequenceability of different colors
- can be installed in the housing
- the spring adapts automatically to changed conductor sections



### Reflow-compatible components



METZ CONNECT offers a wide range of spring clamp terminal blocks in reflow-compatible designs. The demand for reflow-compatible components is constantly growing thanks to ever increasing degrees of automation in the production processes.



"Tape & Reel" is the name given to a taped form of packaging. The aim of this packaging variant is to automate production processes. The components are packed in a blister tape and welded with a protective foil. This tape is then wound round a reel. Taping corresponds to DIN EN 60286.

# Spring clamp terminal blocks

## Printing options

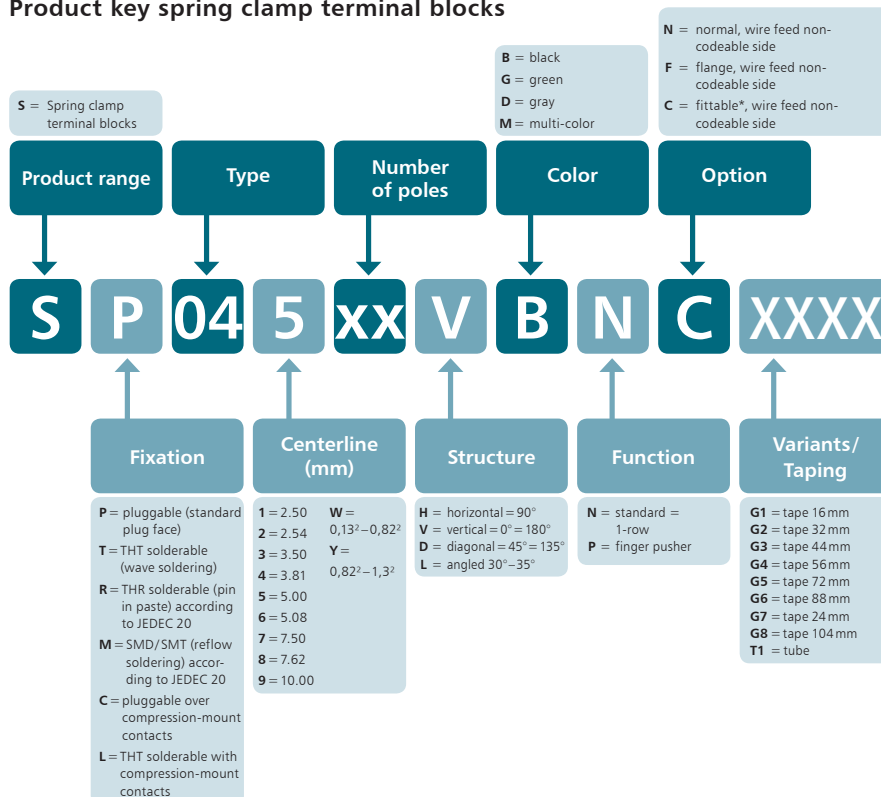
We offer individual printing of your terminal blocks. Figures or symbols, anti-clockwise or clockwise, legible or bottom up depending on the technical feasibility. Ink-jet print, pad printing and hot stamping are available as methods. Design your individual terminal block with us.

## Color options

You can order the terminal blocks in a variety of sizes and also often vary the colors within a terminal block, if required. This is for instance helpful in housing integration to achieve an optically attractive overall picture or to use this as a further coding option. We would be pleased to advise you on the possible combinations.



## Product key spring clamp terminal blocks





























\* Fittable stands for loose sequencing without loss of poles (without dovetails).



## Symbol Definition

### Guiding icons

	Spring clamp terminal block		Wire protector
	IDC terminal block		modular
	Screw type terminal block		Pin header for vertical mounting
	Pin header		Shrouded pin header for vertical mounting
	Female connector		Pin header with open ends for vertical mounting
	Ethernet M12		Pin header with closed ends for vertical mounting
	solderable		Pin header for horizontal mounting
	pluggable		Shrouded pin header for horizontal mounting
	Centerline		Pin header with open ends for horizontal mounting
	Wire entry 90°		Pin header with closed ends for horizontal mounting
	Diagonal wire entry		designed for THR
	Wire entry 0°		designed for SMT
	Lift system		Tape & Reel possible



\* Approval pending



Product family Pole size Color Option  
**ST061xxHDNN**\*(AST061)  
Centerline Design Function \*old product name

- spring clamp terminal block, solderable
- centerline 2.50 mm, direction of connection 90°
- color gray
- without eccentric lever

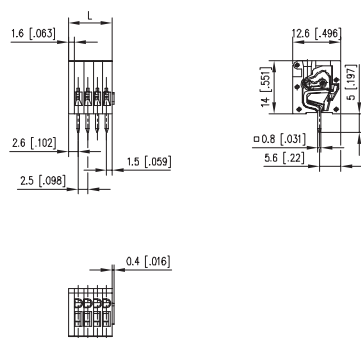
**Technical data**

**UL** <sup>us</sup> V / A / AWG 130 / 10 / 28 - 20

**SEV** 0.5 mm<sup>2</sup> 130 V / 6 A / T60

Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	80 V	320 V	320 V
Rated test voltage	2.5 kV	2.5 kV	2.5 kV
Insulating material class	CTI 600		
Rated wiring solid wire	0.2 - 0.5 mm <sup>2</sup>		
Rated wiring stranded wire	0.2 - 0.5 mm <sup>2</sup>		
Rated wiring solid wire	AWG 28 - 20		
Rated wiring stranded wire	AWG 28 - 20		
Clearance and creepage distances	1.7 mm		
Solder pin dimension	0.8 x 0.8 mm		
Recommended pc board hole dia.	ø 1.3 mm		
Solder pin length	5 mm		
Protection category according to IEC 60529	IP 20		
Min. insul. strip length	6 mm		
Color	gray		

**Dimensional drawing**



L = (Pole size - 1) \* centerline + 4.1 mm (0.161 in.)

P/N

AST061

	02	03	04	05	06	07	08
09	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24

(Information: page 21)

Standard pole sizes



Product family Pole size Color Option  
**ST021xxHDNN**\*(AST021)  
Centerline Design Function \*old product name

- spring clamp terminal block, solderable
- centerline 2.50 mm, direction of connection 90°
- color gray
- eccentric lever

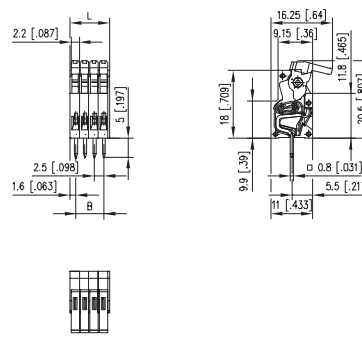
**Technical data**

**UL** <sup>us</sup> V / A / AWG 150 / 8 / 28 - 20

**SEV** 0.5 mm<sup>2</sup> 130 V / 6 A / T60

Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	80 V	320 V	320 V
Rated test voltage	2.5 kV	2.5 kV	2.5 kV
Insulating material class	CTI 600		
Rated wiring solid wire	0.2 - 0.5 mm <sup>2</sup>		
Rated wiring stranded wire	0.2 - 0.5 mm <sup>2</sup>		
Rated wiring solid wire	AWG 28 - 20		
Rated wiring stranded wire	AWG 28 - 20		
Clearance and creepage distances	1.7 mm		
Solder pin dimension	0.8 x 0.8 mm		
Recommended pc board hole dia.	ø 1.3 mm		
Solder pin length	5 mm		
Protection category according to IEC 60529	IP 20		
Min. insul. strip length	6 mm		
Color	gray		

**Dimensional drawing**



L = (Pole size - 1) \* centerline + 3 mm (0.118 in.)

P/N

AST021

	02	03	04	05	06	07	08
09	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24

(Information: page 21)

Standard pole sizes