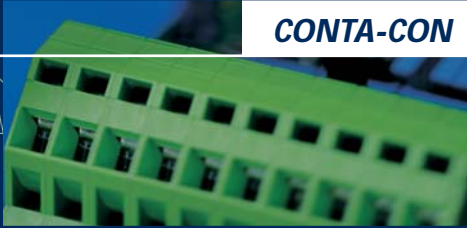


# NEWS 2009

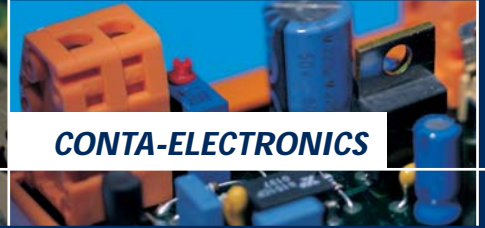
**CONTA-CON**



**CONTA-CONNECT**



**CONTA-ELECTRONICS**



Discover intelligent products.

Experience individual solutions.



**CONTA-CON**

The PFBZ 4551/.../3.81-KD Socket Blocks  
The PFBZ 4551/.../3.81-FKD Socket Blocks with Flange

**CONTA-CONNECT**

The SRK | SSL Screw Connection System  
The SSAB Shield-Connection Clips  
The SVB Screw-Type Distributor Blocks  
The EMS-eco Marking Plotter  
The KSH 4/30 Cable Marker Ferrule  
The SchT 12 Marker Carrier for Terminal Blocks  
The MC GSU Maxicard Device and Facility Markers  
The TS-PS eco Sectional Cutter

**CONTA-ELECTRONICS**

The CP V 40 CONTA-PROTECT Overvoltage Protection  
The CMS-BS100 Multi-Function Converter Unit  
The CML-UI-UI-G Voltage and Current Converter Unit

NEWS 2009

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## EMS-eco Marking-System Plotter

### The EMS-eco Easy-Marking-System Plotter

A system that fulfils a wide variety of labeling requirements!

The entry-level model in our EMS Easy Marking System series stands out for the impressive versatility and user-friendliness fitted into its small size.

- Loading capacity (with 2 inlays and up to 400 markers)
- Short loading times for various materials, thanks to fast and straightforward exchange of inlays and automatic inlay recognition
- The accompanying labeling software, CONTA-Sign, is compatible with ten languages (German, English, French, Spanish, Hungarian, Italian, Dutch, Polish, Russian, Swedish)
- Free software updates can be downloaded from our web page
- High-quality labeling is ensured by the combination of your PPE disposable pen and the double-sided plotter arm design
- Just one inlay is needed for all of the CONTA-CLIP Maxicards
- Automatic calibration eliminates the need for manual adjustments
- Our EMS series is fully compatible with a comprehensive and proven range of accessories (plotter pens, ink, cleaners and inlays).

### Type

Type

Cat. no.

Type

Cat. no.

### Technical data

Printer type

Drive

Intended use

Max. marker height

Max. plotting area

Command language

Max. plotting speed, cm/sec.

Max. printing speed, mm/sec.

Dimensions (W x H x D)

Weight, kg

Supply voltage

Interfaces

### Accessories

Inlays for CONTA-CLIP markers

Cat. no.	Type
1592.0	CCI-2
1593.0	CCI-3
1600.0	CCI-4
1601.0	CCI-5
1602.0	CCI-6
1603.0	CCI-7
1604.0	CCI-8
1606.0	CCI-10
1607.0	CCI-11
88520.8	CCI-15
88520.0	CCI-17
88520.1	CCI-18
88520.2	CCI-19
88520.7	CCI-16

1592.0

1593.0

1600.0

1601.0

1602.0

1603.0

1604.0

1606.0

1607.0

88520.8

88520.0

88520.1

88520.2

88520.7

Inlays for markers from other manufactures can be found at [www.conta-clip.com](http://www.conta-clip.com)

Disposable plotter pens

Cat. no.	Type
1649.0	PPE 0.18 mm red
1650.0	PPE 0.25 mm white
1651.0	PPE 0.35 mm yellow
1652.0	PPE 0.50 mm brown
1653.0	PPE 0.70 mm blue
1654.0	PPE 1.00 mm orange

1649.0

1650.0

1651.0

1652.0

1653.0

1654.0

### EMS-eco



### The EMS-eco Easy Marking System

Short description	Qty.
Plotter, power supply, cable (USB cable from plotter to PC), CONTA-Sign CS ten-language software (based on Windows 95/98/2000/ NT/XP) 1611.0	1

Short description	Qty.
The EMS-eco Starter Kit Easy Marking System Plotter, power supply, cable (USB cable from plotter to PC), CONTA-Sign CS ten-language software (based on Windows 95/98/2000/ NT/XP) 1 x CCI-10 (1606.0), 1 x PPE 0.35 (1651.0) 1613.0	1

Flat-bed plotter

Two-phase step motor

Printing markers of various materials and sizes

10.5 mm, custom solutions up to 15 mm

DIN A4, 220 mm x 305 mm

based on HP-GL

40

80

440 x 125 x 440

approx. 6

100 - 240 V AC 50 - 60 Hz

USB Level 1.1

### Short description

Short description	Qty.
Inlay for SB 8/10	1
Inlay for SB 7.5/10, AD 1/5N	1
Inlay for ADQ	1
Inlay for KBH-S4	1
Inlay for AD 1/5, AD 1/6, AD 1/8, AD 1/16N	1
Inlay for AD 1/12N	1
Inlay for paper and polyester sheets (for example, GKE, KKE, ESO GT1, ESO GT2, ESO, BST 8, GKE 17/9) as well as material for engraving GMP and GMA	1
Inlay for all Maxicards (including: MC SB, MC BSTR, MC ESS, MC GS, MC KMS, MC GST, MC GSU)	1
Inlay for SchT 9.10 and ZSchT 6	1
Inlay for KBH-S 21, 36, 57, 84 strip	1
Inlay for KBH 3/15, 3/21, 3/27 strip	1
Inlay for KBH 5/15, 5/21, 5/27 strip	1
Inlay for KBH 10/15, 10/21,10/27,10/36 single	1
Inlay for KBH-S 15, 21, 25, 40 single	1

Inlay for SB 8/10

Inlay for SB 7.5/10, AD 1/5N

Inlay for ADQ

Inlay for KBH-S4

Inlay for AD 1/5, AD 1/6, AD 1/8, AD 1/16N

Inlay for AD 1/12N

Inlay for paper and polyester sheets (for example, GKE, KKE, ESO GT1, ESO GT2, ESO, BST 8, GKE 17/9) as well as material for engraving GMP and GMA

Inlay for all Maxicards (including: MC SB, MC BSTR, MC ESS, MC GS, MC KMS, MC GST, MC GSU)

Inlay for SchT 9.10 and ZSchT 6

Inlay for KBH-S 21, 36, 57, 84 strip

Inlay for KBH 3/15, 3/21, 3/27 strip

Inlay for KBH 5/15, 5/21, 5/27 strip

Inlay for KBH 10/15, 10/21,10/27,10/36 single

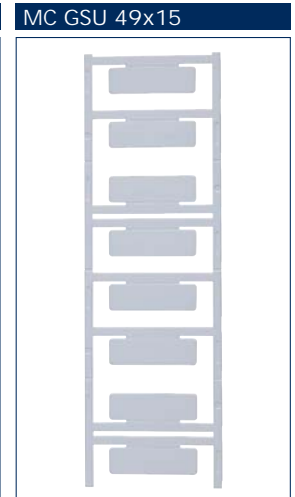
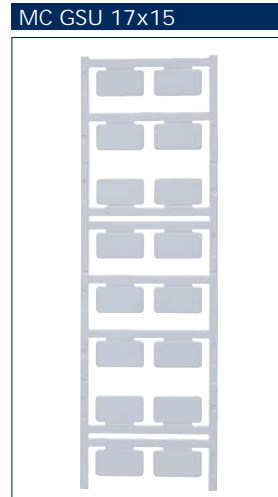
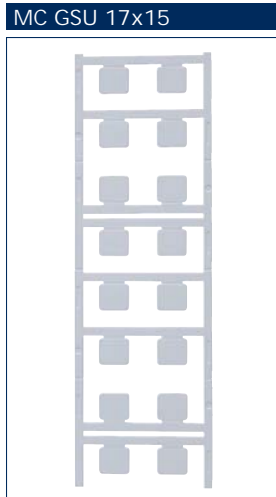
Inlay for KBH-S 15, 21, 25, 40 single

# The KSH 4/30 Cable Marker Ferrule and Marker Carrier for SchT 12 Terminal Blocks

KSH 4/30   SchT 12	KSH 4/30	SchT 12	
<p>The KSH 4/30 cable marker ferrule supplements the KSH range, enabling labeling with just one cable tie. In conjunction with the MC ESS 30/60 marker, the KSH 4/30 is the solution for a whole range of labeling needs. It can be securely fastened with a single cable tie to the wire or cable. It is suitable for use anywhere and meets all key market requirements. The MC ESS 30/60 marker can be simply and conveniently labeled with the EMS plotter.   The SchT 12 marker carrier is snapped on directly to the terminal block housing. It can be fitted quickly and simply with either four PMC SB 5 or eight AS 3 markers. You no longer have to deal with cumbersome paper-strip and protective-foil labeling. The screw ports and cross-connection channels are also completely covered just as with the individual (EA 1 and AD1) covers. This makes it impossible to use the terminal point while it is connected to a live voltage. All labeling options for the terminal points remain available.</p>			
<b>Type</b>			
Type Color	KSH 4/30 transparent	SchT 12 white	
Cat. no.	3896.0	2531.0	100
Type Color			
Cat. no.			
Colors available	①	⑦	
Characteristics			
<b>Dimensions</b>			
Dimensions (L x W x H), mm	30 x 5.2 x 4	26.1 x 6.2 x 2.9 (3.9 incl. SB5)	
Pocket width, mm	4.2		
Wing width, mm	14.4		
Slit width for cable tie, mm	1.5 x 5.4		
<b>Material</b>			
Material	Soft PVC	PA 6.6	
Thermal stability	-30 to +60 °C	-40 to +105 °C	
Flammability class acc. to UL 94	V0	V2	
Resistance to liquids	Oil, gasoline	-	
Resistance to gamma and UV radiation	1 year radiant intensity, Europe	-	
<b>Inscription</b>			
Snap-on with markers	MC ESS ...	4x PMC SB 5/50	
Snap-on with markers		8x AS 3/10	
<b>Application</b>			
	Cable labeling	Grouped labeling	
	Wire labeling	Terminal labeling	
		Terminal cover	
<b>Accessories</b>			
Marker Maxicard			
Cat. no.	MC ESS 30/60 white	MC SB 5/200 white	
	3354.7	3300.7	1000
Marker Pocket Maxicard		PMC SB 5/50 white	500
Cat. no.		4600.7	
Marker AS 3		AS 3/10 white	500
Cat. no.		2571.0	
Cable tie KB (140-mm length)	KB 140 black		
Cat. no.	2672.0		1000
<b>For terminal block</b>			
		SRK 4/2A...	
		RK 2.5-4...	

# The MC GSU Device and Installation Marker

**MC GSU maxicard and holder**  
 The new MC GSU Maxicards are used for marking devices, components and electrical cabinets. They are available in six sizes (17x15 | 27x15 | 49x15 | 60x15 | 60x30 | 85.4x54 mm), in snap-in (R) or adhesive (K) versions. The markers are snapped onto the GSU-H holders or attached by means of the adhesive film. The markers are snapped onto the GSU-H holders or attached by means of the adhesive film. The snap-on STR MC GSU protective strips can be used to protect the inscription. The GSU-H holders fit with the MC GSU and are also available in six sizes and a screw-on version. The GSU-H can also be fastened with cable ties. After the holder is fastened, the labeled marker is conveniently snapped into the holder. Our plotter system can be used to easily customize labeling on the MC GSU.



Type	
Type Color	snap-on
Cat. no.	
Type Color	snap-on
Cat. no.	
Type Color	self-adhesive
Cat. no.	
Type Color	self-adhesive
Cat. no.	
Colors available	
Characteristics	

MC GSU 17x15		Qty.
MC GSU 17x15 R white		80
3382.7		
MC GSU 17x15 R white, special print		80
3383.7		
MC GSU 17x15 K white		80
3384.7		
MC GSU 17x15 K white, special print		80
3385.7		
Colors available		⑦ ⑧

MC GSU 27x15		Qty.
MC GSU 27x15 R white		80
3386.7		
MC GSU 27x15 R white, special print		80
3388.7		
MC GSU 27x15 K white		80
3387.7		
MC GSU 27x15 K white, special print		80
3389.7		
Colors available		⑦ ⑧

MC GSU 49x15		Qty.
MC GSU 49x15 R white		40
3390.7		
MC GSU 49x15 R white, special print		40
3392.7		
MC GSU 49x15 K white		40
3391.7		
MC GSU 49x15 K white, special print		40
3393.7		
Colors available		⑦ ⑧

Dimensions	
Dimensions (L x W), mm	
Number of markers per row	
Number of markers per card	
Material	
Material	
Thermal stability	
Flammability class acc. to UL 94	
Inscription	
Plotter	
Plotter inlay	
Hand marking pen	
Number of characters   rows, font size 16, plotter pen 0.25: horizontal	
Number of characters   rows, font size 16, plotter pen 0.25: vertical	
Application	
Assembly MC GSU...R   MC GSU...K	

MC GSU 17x15	
Dimensions (L x W), mm	17 x 15
Number of markers per row	2
Number of markers per card	16
Material	PA6.6, halogen-free
Thermal stability	-40 to +105 °C
Flammability class acc. to UL 94	V2
Plotter	EMS
Plotter inlay	CCI-10
Hand marking pen	BS-1
Number of characters   rows, font size 16, plotter pen 0.25: horizontal	10   5
Number of characters   rows, font size 16, plotter pen 0.25: vertical	10   5
Application	Snap-on (R)   All-purpose self-adhesive (K)

MC GSU 27x15	
Dimensions (L x W), mm	27 x 15
Number of markers per row	2
Number of markers per card	16
Material	PA6.6, halogen-free
Thermal stability	-40 to +105 °C
Flammability class acc. to UL 94	V2
Plotter	EMS
Plotter inlay	CCI-10
Hand marking pen	BS-1
Number of characters   rows, font size 16, plotter pen 0.25: horizontal	15   5
Number of characters   rows, font size 16, plotter pen 0.25: vertical	10   5
Application	Snap-on (R)   All-purpose self-adhesive (K)

MC GSU 49x15	
Dimensions (L x W), mm	49 x 15
Number of markers per row	1
Number of markers per card	8
Material	PA6.6, halogen-free
Thermal stability	-40 to +105 °C
Flammability class acc. to UL 94	V2
Plotter	EMS
Plotter inlay	CCI-10
Hand marking pen	BS-1
Number of characters   rows, font size 16, plotter pen 0.25: horizontal	35   5
Number of characters   rows, font size 16, plotter pen 0.25: vertical	10   5
Application	Snap-on (R)   All-purpose self-adhesive (K)

Accessories	
Holder GSU-H, for MC GSU	
Cat. no.	
Protective strips STR	
Cat. no.	

MC GSU 17x15		Qty.
GSU-H 17x15		80
3827.4		
STR MC GSU 17x15 R		80
3860.0		

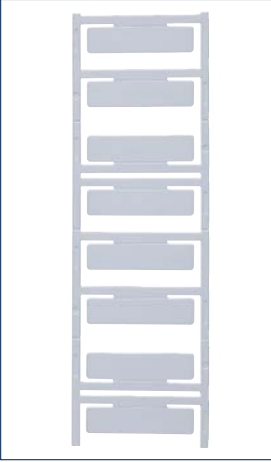
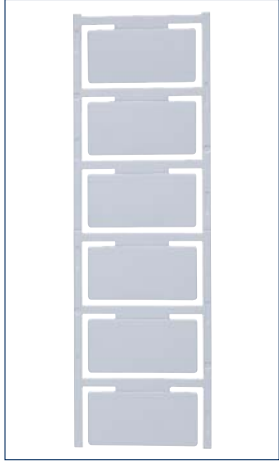
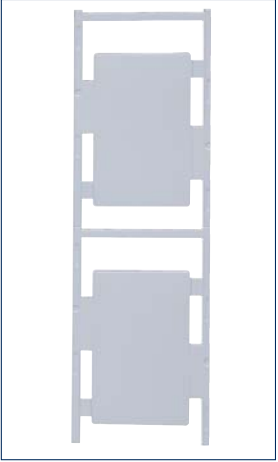
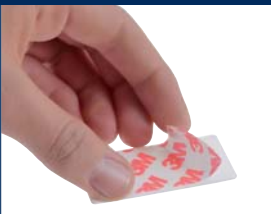
MC GSU 27x15		Qty.
GSU-H 27x15		80
3828.4		
STR MC GSU 27x15 R		80
3861.0		

MC GSU 49x15		Qty.
GSU-H 49x15		40
3829.4		
STR MC GSU 49x15 R		40
3862.0		

Technical data for the Maxicard and holder GSU-H   Protective strips STR	
Material	Polyamide 6.6, halogen-free   Hard PVC (STR)
Flammability class	Acc. to UL 94-V2   B1 (STR)
Colors	Refer to order information
Delivered as	Carton/bag
Minimum order quantity	1 standard pack
Thermal stability	-40 to +105 °C   -30 to +60 °C (STR)



# The MC GSU Device and Installation Marker

MC GSU 60x15	MC GSU 60x30	MC GSU 85.4x54		
				
Qty. MC GSU 60x15 R white 3394.7 40	Qty. MC GSU 60x30 R white 3852.7 30	Qty. MC GSU 85.4x54 R white 3856.7 10		
MC GSU 60x15 R white, special print 3396.7 40	MC GSU 60x30 R white, special print 3854.7 30	MC GSU 85.4x54 R white, special print 3858.7 10		
MC GSU 60x15 K white 3395.7 40	MC GSU 60x30 K white 3853.7 30	MC GSU 85.4x54 K white 3857.7 10		
MC GSU 60x15 K white, special print 3397.7 40	MC GSU 60x30 K white, special print 3855.7 30	MC GSU 85.4x54 K white, special print 3859.7 10		
⑦ ⑧	⑦ ⑧	⑦ ⑧		
60 x 15	60 x 30	85.4 x 54		
1	1	1		
8	6	2		
PA6.6, halogen-free -40 to +105 °C	PA6.6, halogen-free -40 to +105 °C	PA6.6, halogen-free -40 to +105 °C		
V2	V2	V2		
EMS	EMS	EMS		
CCI-10	CCI-10	CCI-10		
BS-1	BS-1	BS-1		
45   5	45   5	55   5		
10   5	20   5	35   5		
Snap-on (R)   All-purpose self-adhesive (K)	Snap-on (R)   All-purpose self-adhesive (K)	Snap-on (R)   All-purpose self-adhesive (K)		
Qty. GSU-H 60x15 3830.4 40	Qty. GSU-H 60x30 3850.4 30	Qty. GSU-H 85.4x54 3851.4 10		
STR MC GSU 60x15 R 3863.0 40	STR MC GSU 60x30 R 3864.0 30	STR MC GSU 85.4x54 R 3865.0 10		
Application MC GSU...K				
				

## The MC GSU Device and Installation Marker

### Maxicard MC GSU and holder

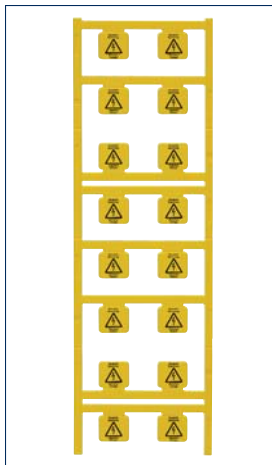
The MC GSU series is also available in yellow with inscription.

Two-language inscription:  
Vorsicht Spannung – Attention Voltage.

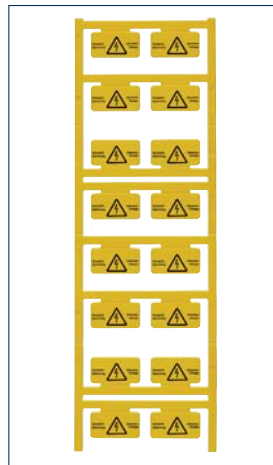
These models are also available in all six sizes, as snap-on (R) or self-adhesive (K).

Material: Polyamide 6.6, halogen-free

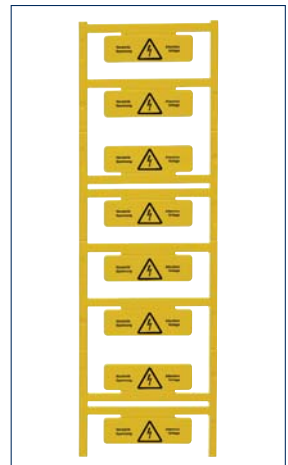
### MC GSU 17x15 R



### MC GSU 27x15 R



### MC GSU 49x15 R



Type		MC GSU 17x15 R	MC GSU 27x15 R	MC GSU 49x15 R
Type Color	snap-on	MC GSU 17x15 R, yellow print	MC GSU 27x15 R, yellow print	MC GSU 49x15 R, yellow print
Cat. no.		3872.8	3874.8	3876.8
Type Color				

Type		MC GSU 17x15 R	MC GSU 27x15 R	MC GSU 49x15 R
Type Color	self-adhesive	MC GSU 17x15 K , yellow print	MC GSU 27x15 K , yellow print	MC GSU 49x15 K , yellow print
Cat. no.		3873.8	3875.8	3877.8
Type Color				

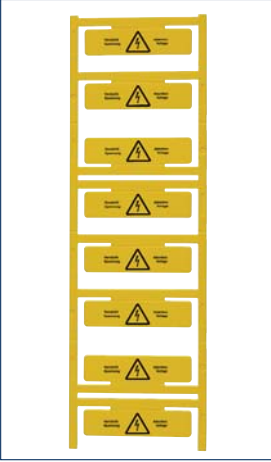

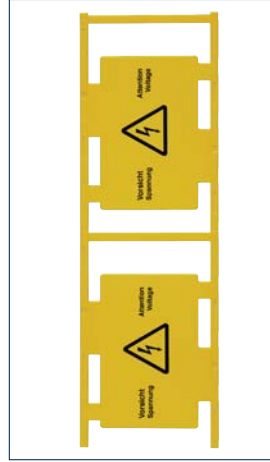
Cat. no.	Colors available	Characteristics

Dimensions	MC GSU 17x15 R	MC GSU 27x15 R	MC GSU 49x15 R
Dimensions (L x W), mm	17 x 15	27 x 15	49 x 15
Number of markers per row	2	2	1
Number of markers per card	16	16	8
Material			
Material	PA6.6, halogen-free	PA6.6, halogen-free	PA6.6, halogen-free
Thermal stability	-40 to +105 °C	-40 to +105 °C	-40 to +105 °C
Flammability class acc. to UL 94	V2	V2	V2
Inscription			
Plotter	EMS	EMS	EMS
Plotter inlay	CCI-10	CCI-10	CCI-10
Hand marking pen	BS-1	BS-1	BS-1
Number of characters   rows, font size 16, plotter pen 0.25: horizontal	-	-	-
Number of characters   rows, font size 16, plotter pen 0.25: vertical	-	-	-
Application			
Assembly MC GSU...R   MC GSU...K	Snap-on (R)   All-purpose self-adhesive (K)	Snap-on (R)   All-purpose self-adhesive (K)	Snap-on (R)   All-purpose self-adhesive (K)

Accessories	MC GSU 17x15 R	MC GSU 27x15 R	MC GSU 49x15 R
Holder GSU-H, for MC GSU	GSU-H 17x15	GSU-H 27x15	GSU-H 49x15
Cat. no.	3827.4	3828.4	3829.4
Protective strips STR	STR MC GSU 17x15 R	STR MC GSU 27x15 R	STR MC GSU 49x15 R
Cat. no.	3860.0	3861.0	3862.0

Technical data for the Maxicard and GSU-H holder   Protective strips STR	
Material	Polyamide 6.6, halogen-free   Hard PVC (STR)
Flammability class	Acc. to UL 94-V2   B1 (STR)
Colors	Refer to order information
Delivered as	Carton/bag
Minimum order quantity	1 standard pack
Thermal stability	-40 to +105 °C   -35 to +60 °C (STR)

# The MC GSU Device and Installation Marker

MC GSU 60x15	MC GSU 60x30	MC GSU 85.4x54		
				
Qty. MC GSU 60x15 R, yellow print 3878.8 40	Qty. MC GSU 60x30 R, yellow print 3880.8 30	Qty. MC GSU 85.4x54 R, yellow print 3882.8 10		
MC GSU 60x15 K , yellow print 3879.8 40	MC GSU 60x30 K , yellow print 3881.8 30	MC GSU 85.4x54 K, yellow print 3883.8 10		
<b>B</b>	<b>B</b>	<b>B</b>		
60 x 15	60 x 30	85.4 x 54		
1	1	1		
8	6	2		
PA6.6, halogen-free -40 to +105 °C V2	PA6.6, halogen-free -40 to +105 °C V2	PA6.6, halogen-free -40 to +105 °C V2		
EMS	EMS	EMS		
CCI-10	CCI-10	CCI-10		
BS-1	BS-1	BS-1		
-	-	-		
Snap-on (R)   All-purpose self-adhesive (K)	Snap-on (R)   All-purpose self-adhesive (K)	Snap-on (R)   All-purpose self-adhesive (K)		
Qty. GSU-H 60x15 3830.4 40	Qty. GSU-H 60x30 3850.4 30	Qty. GSU-H 85.4x54 3851.4 10		
STR MC GSU 60x15 R 3863.0 40	STR MC GSU 60x30 R 3864.0 30	STR MC GSU 85.4x54 R 3865.0 10		

## The TS-PS eco Sectional Cutter

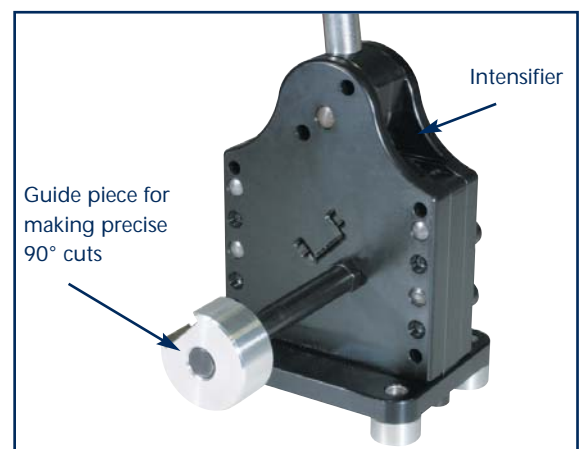
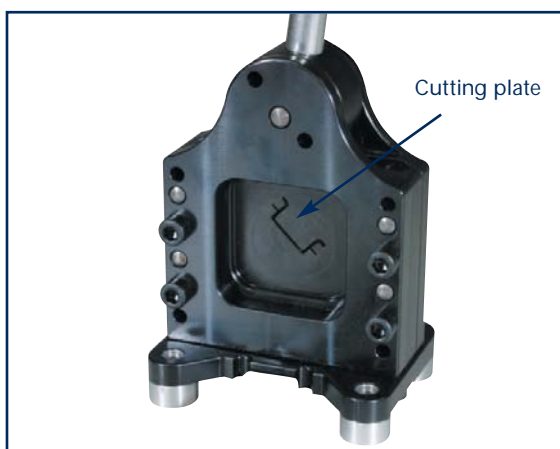
### Sectional cutting tool for DIN TS-35 mounting rails

The new TS-PS eco sectional cutter is a manual tool developed for cutting DIN TS-35 rails into sections. The TS-PS eco has a quiet and quick cutting process which leaves no burrs on the rail. The result is a fine, straight cut that does not result in any bending of the rail. The tool can be attached to a work bench or mounted at a workstation. It is easy and intuitive to operate and can cut with minimal expenditure of effort. The cutting disk can be re-sharpened or easily replaced.

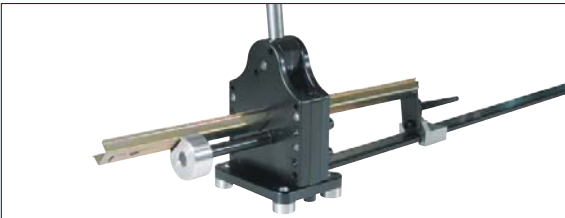
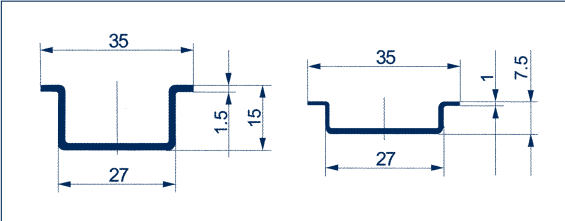


#### Features









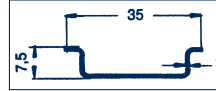
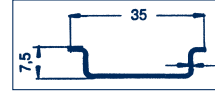

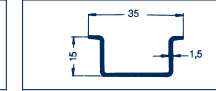








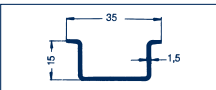
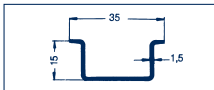


- Minimal effort
- Quick, quiet and burr-free cross-cuts
- Maintenance-free
- Versatile: with metric or inch measurement scale
- Cutting plate can be re-sharpened or easily replaced



# The TS-PS eco Sectional Cutter

		<b>TS-PS eco</b>	
Sectional cutting tool for DIN TS-35 mounting rails TS 35 x 7.5 mm and TS 35 x 15 mm			
<b>Rail dimensions</b>			
<b>Type</b>	Type	<b>Qty.</b>	
Cat. no.	TS-PS eco	1	
<b>Technical data</b>	3895.0		
Length limit	1000 mm, metric and inch		

## Overview of CONTA-CLIP mounting rail products, standard TS-35 rails



<b>TS 35</b>	<b>TS 35</b>	<b>TS 35</b>	<b>TS 35</b>	<b>TS 35</b>	<b>TS 35</b>
					
					
					
<b>Type</b> TS 35x7.5	<b>Type</b> TS 35x7.5	<b>Type</b> TS 35x7.5	<b>Type</b> TS 35x7.5	<b>Type</b> TS 35x7.5	<b>Type</b> TS 35x15
<b>Cat. no.</b> 2026.0	<b>Cat. no.</b> 2094.0	<b>Cat. no.</b> 2710.0	<b>Cat. no.</b> 4562.0	<b>Cat. no.</b> 4563.0	<b>Cat. no.</b> 4564.0
<b>Length</b> 2 m	<b>Length</b> 2 m	<b>Length</b> 2 m	<b>Length</b> 2 m	<b>Length</b> 2 m	<b>Length</b> 2 m
Unpunched steel	Punched steel	Unpunched aluminum	Unpunched steel/galvanized	Punched steel/galvanized	Punched steel/galvanized
<b>TS 35</b>	<b>TS 35</b>				
					
					
					
<b>Type</b> TS 35x15	<b>Type</b> TS 35x15				
<b>Cat. no.</b> 2095.0	<b>Cat. no.</b> 4561.0				
<b>Length</b> 2 m	<b>Length</b> 2 m				
Punched steel	Unpunched steel/galvanized				

## Rails / protective earth / busbars according to DIN VDE 0611, part 3



Type	Material	Cat. no.	Short-circuit resistance mm <sup>2</sup>	Max. short-circuit current, kA	Max. allowed thermal rated current, with PEN function	Type	Material	Cat. no.	Short-circuit resistance mm <sup>2</sup>	Max. short-circuit current, kA	Max. allowed thermal rated current, with PEN function
TS 35 x 7.5	Steel	2026.0	16	1.92	*	TS 35 x 15	Steel	2027.0	25	3.0	*
TS 35 x 7.5, punched	Steel	2094.0	16	1.92	*	TS 35 x 15	Galv. steel	4561.04	25	3.0	*
TS 35 x 7.5	Galv. steel	4562.0	16	1.92	*	TS 35 x 15, punched	Galv. steel	564.0	25	3.0	*
TS 35 x 7.5, punched	Galv. steel	4563.0	16	1.92	*	TS 35 x 15/2.3	Steel	2038.0	50	6.0	*
TS 35 x 7.5	Aluminum	2710.0	35	4.2	105	TS 35 x 15/2.3, punched	Steel	2039.0	50	6.0	*

\*Use of protective earth steel busbars is not permitted for PEN functionality!

## CONTA-PROTECT Overvoltage Protection

Overvoltage arresters, type 2 (C)	CP V 40-1	CP VH 40-1	CP VH 40-2
<ul style="list-style-type: none"> <li>· Mount on TS 35</li> <li>· Screw connection</li> <li>· Overvoltage arrester, type 2 (class C)</li> <li>· Discharge current: <math>I_N</math>: 20 kA/<math>I_{max}</math>: 40 kA</li> <li>· Pluggable protective elements</li> <li>· Remote signaling (CP VH 40)</li> <li>· Complies with IEC 61643-1 and EN61643-11 standards</li> </ul>			
V: high-power varistor Ft: thermal fuse C: remote signaling contact t°: thermal separator Mi: disconnect display			
<b>Connection type</b>	Screw connection	Screw connection	Screw connection
Size (L x W x H) with TS 35 x 7.5 mm	90 x 18 x 70	100.6 x 18 x 70	100.6 x 36 x 70
Weight g	100	108	182
<b>Type</b>			
Type Color	CP V 40-1	CP VH 40-1	CP VH 40-2
Cat. no.	16002.2	16003.2	16004.2
Arrester   Class	Type 2   class C	Type 2   class C	Type 2   class C
<b>Technical data</b>			
Rated voltage $U_N$ V AC	230/400	230/400	230/400
Max. continuous voltage ( $U_C$ ) V AC	280	280	280
Rated frequency ( $f_n$ ) Hz	50-60	50-60	50-60
Rated discharge current (8/20) $\mu$ s ( $I_N$ ) kA	20	20	40
Max. discharge current (8/20) $\mu$ s ( $I_{max}$ ) kA	40	40	80
Protection level ( $U_p$ ) kV	< 1.25	< 1.25	< 1.25
Residual voltage ( $U_{res}$ ) kV	< 0.5	< 0.5	< 0.5
Operating current ( $I_C$ ) mA	< 1	< 1	< 1
Follow-on current ( $I_f$ ) kA	none	none	none
Follow-on current suppression capability ( $I_{ff}$ ) kA	infinite	infinite	infinite
Response time ( $t_A$ ) ns	< 25	< 25	< 25
TOV voltage L-N ( $U_T$ ) V/5 sec	340	340	340
TOV voltage N-PE ( $U_T$ ) V/200 ms/300 A	-	-	-
Short-circuit resistance ( $I_p$ ) kA	25	25	25
Max. series fuse ( $g_L/g_G$ ) A	125	125	125
Malfunction display	Mechanical, red	Mechanical, red	Mechanical, red
Temperature range	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C
Connection cross-section, mm <sup>2</sup>	4-25	4-25	4-25
Protection	IP20	IP20	IP20
Rail assembly	TS 35	TS 35	TS 35
Installation dimensions, TE	1	1	1
Housing material	Thermoplastic PEI UL-94-5VA	Thermoplastic PEI UL-94-5VA	Thermoplastic PEI UL-94-5VA
<b>Testing standards</b>			
DIN EN 61643-11, Germany	Type 2	Type 2	Type 2
IEC 61643-1, International	SPD Class II	SPD Class II	SPD Class II
EN 61643-11, Europe	SPD Class II	SPD Class II	SPD Class II
UL1449 ed.2, USA	TVSS	TVSS	TVSS
<b>Type of network</b>			
	TNC, TNS, TT	TNC, TNS, TT	For TN systems (2+0)
<b>Remote signaling</b>			
Remote signaling	-	Potential-free CO contact	Potential-free CO contact
Switching capacity	-	250 V / 0.5 A (AC)   30 V / 2 A (DC)	250 V / 0.5 A (AC)   30 V / 2 A (DC)
Connection cross-section	-	Max. 1.5 mm <sup>2</sup>	Max. 1.5 mm <sup>2</sup>
<b>Accessories</b>			
Replacement plug, L-N	CP V 40-S	CP V 40-S	CP V 40-S
Cat. no.	16007.2	16007.2	16007.2
Replacement plug, N-PE			
Cat. no.			
Earth bridges, CP E	CP E-2		
Cat. no.	6865.0		
Earth bridges, CP E	CP E-3		
Cat. no.	6866.0		
Earth bridges, CP E	CP E-4		
Cat. no.	6867.0		

# CONTA-PROTECT Overvoltage Protection

CP VH 40-4-TN	CP VH 40-4-TT			
				
Screw connection 100.6 x 72 x 70 323	Screw connection 100.6 x 72 x 70 323			
Qty.	Qty.			
CP VH 40-4-TN 16005.2 1	CP VH 40-4-TT 16006.2 1			
Type 2   class C	Type 2   class C			
230/400	230/400			
280	280			
50-60	50-60			
80	80			
160	150			
< 1.25	< 1.25			
< 0.5	< 0.5			
< 1	< 1			
none	none			
infinite	infinite			
< 25	< 25			
340	340			
-	1200			
25	25			
125	125			
Mechanical, red	Mechanical, red			
-40 to +85 °C	-40 to +85 °C			
4-25	4-25			
IP20	IP20			
TS 35	TS 35			
1	1			
Thermoplastic PEI UL-94-5VA	Thermoplastic PEI UL-94-5VA			
Type 2	Type 2			
SPD Class II	SPD Class II			
SPD Class II	SPD Class II			
TVSS	TVSS			
For TN-S systems (4+0)	For TT systems (3+1)			
Potential-free CO contact 250 V / 0.5 A (AC)   30 V / 2 A (DC) Max. 1.5 mm²	Potential-free CO contact 250 V / 0.5 A (AC)   30 V / 2 A (DC) Max. 1.5 mm²			
Qty.	Qty.			
CP V 40-S 16007.2 1	CP V 40-S 16007.2 1			
	CP V 40-S-N-PE 16008.2 1			

## The CMS-BS100 Multi-function Converter Units

The CMS-BS100 is a multi-function signal conversion unit featuring multiple inputs and outputs. It can convert analog voltage, current, RTD and digital signals into analog or digital outputs. Several of the most helpful functions are already programmed into the standard unit.

The CMS-BS 100 can also be programmed for customer-specific conversion tasks at any time. Thanks to the variety of inputs and outputs, a variety of different functions can be programmed. The measurement inputs as well as the analog and digital outputs can be combined in any way needed.

The analog and digital inputs and outputs can be linked as required within the following ranges:

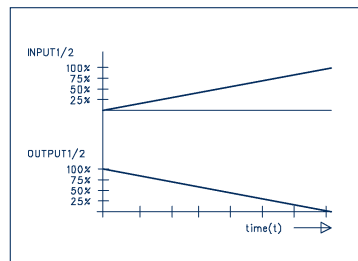
Input	Output
U = 0 to 60 V	U = 0 to 11 V
I = 0 to 1 A	I = 0 to 22 mA

Programmed standard functions for the CMS-BS100:

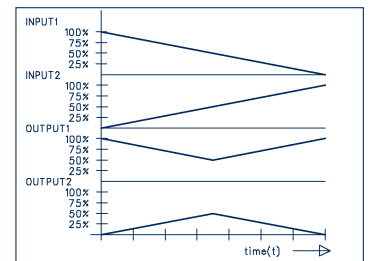
### Analog functions

for 2 similar signals, voltages 0-1 V, 0-10 V or currents 0(4)-20 mA

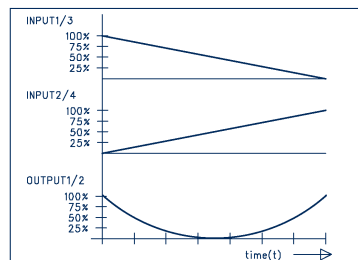
- Analog inverter  
The output delivers the inverted input signal.



- Highest or lowest input  
The output always takes the value of the highest or lowest input.



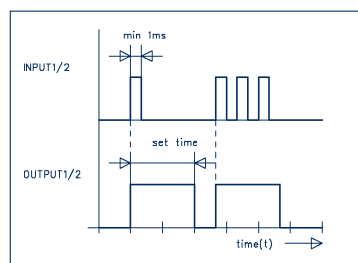
- Differentiator  
The absolute difference between the inputs



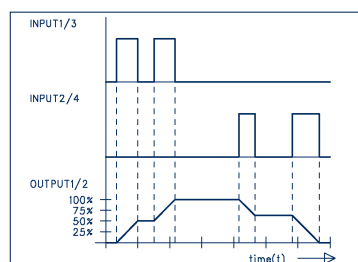
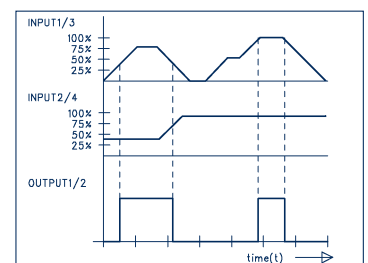
- Signal duplication  
Input signal on two separate outputs
- RTD (Ni1000, PT1000) set-point transmitter
- 4 potentiometer on analog output signals  
minimal resistance Rpot with 1 potentiometer 1 kOhm with 2 potentiometers 2 kOhm

### Analog/digital functionality

- Pulse extension  
Output pulse  
1s / 2s / 3s / 4s  
selectable

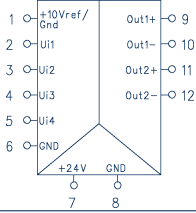


- Threshold value for analog to digital  
Output 1/2 is switched when input 1>2 and 3>4



- Up / Down dimmer  
As soon as input 1 is switched (24 V DC), the output voltage increases to a maximum value of 10 V DC. As soon as input 2 is switched (24 V DC), the output voltage decreases to a minimum value of 0 V. If no input is switched (0 V DC), the output voltage remains stable. The rise and fall of the output voltage takes place after a pre-set linear rate, ranging from 5 seconds to 30 minutes. Inputs 3/4 and output 3 have the same functionality.

# The CMS-BS100 Multi-function Converter Units

<ul style="list-style-type: none"> <li>· Mount on TS 35</li> <li>· Compact design, width: 17.5 mm</li> <li>· Pluggable screw connection</li> <li>· 4 multi-function analog/digital inputs</li> <li>· 2 multi-function analog/digital outputs</li> <li>· Many standard functions are pre-programmed</li> <li>· Input and output ranges are adjustable via DIP switch</li> <li>· Particularly well suited for customized applications</li> <li>· 24 V DC power supply</li> </ul>	<p><b>CMS-BS100</b></p> 	
	<p><b>Circuit diagram</b></p> 	
<p><b>Type</b> Cat. no.</p>	<p><b>CMS-BS100</b> 15963.2</p>	<p>Qty. 1</p>
<p>Size (L x W x H) with TS 35 x 7.5 mm</p>	<p>99 x 17.5 x 114.5</p>	
<p>Weight g</p>	<p>120</p>	
<p><b>General information</b></p>		
<p>EMC specifications</p>	<p>EN 55011 / EN 61326-1</p>	
<p>Electromagnetic properties</p>	<p>In compliance with the EMC Directive 2001/108/EC</p>	
<p>Protection class</p>	<p>IP 20</p>	
<p>Operating temperature</p>	<p>-20 to +55 °C</p>	
<p>Connection type</p>	<p>Pluggable Screw connection</p>	
<p>Connection cross-section, mm<sup>2</sup></p>	<p>0.2-2.5</p>	
<p>Screw connection</p>	<p>AWG 22-14</p>	
<p>Stripping length, mm</p>	<p>7</p>	
<p>Power supply, V DC</p>	<p>24 (±20%)</p>	
<p>Current consumption, mA</p>	<p>approx. 25</p>	
<p>Conversion errors</p>	<p>&lt; 0.5% full scale range</p>	
<p>Linearity errors</p>	<p>&lt; 0.5% full scale range</p>	
<p>Reaction time, ms</p>	<p>100</p>	
<p>Temperature coefficient</p>	<p>&lt; 0.02% / K</p>	
<p><b>Input data</b></p>		
<p>4 multi-function analog/dig. inputs</p>	<p>0..1 V / 0..10 V / 0(4)..20 mA / RTD / 24 V DC (10..30 V) Input type can be selected with jumper</p>	
<p>Input resistance, (U) kOhm</p>	<p>200</p>	
<p>Input resistance, (I) Ohm</p>	<p>200</p>	
<p>Resolution (U/I) bit</p>	<p>10 (10 mV / 20 µA)</p>	
<p>Configuration resistance (PT/Ni1000)</p>	<p>Type: plug-in(Rt) 18K2-0.1% (non included), Temperature range: -20 to +140 °C</p>	
<p>Resolution (PT1000 / Ni1000) bit</p>	<p>8 (0.6 °C / 0.5 °C)</p>	
<p>Reference output voltage for RTD, V</p>	<p>10</p>	
<p><b>Output data</b></p>		
<p>2 multi-function analog/dig. outputs</p>	<p>Output type can be selected with jumper</p>	
<p>Analog outputs</p>	<p>0..10 V DC or 0(4)..20 mA, short-circuit and overvoltage (24 V AC/DC) protected</p>	
<p>Load resistance U / I</p>	<p>U: &gt; 1 kOhm I: &lt; 500 Ohm</p>	
<p>Offset U / I</p>	<p>&lt; 10 mV / 20 µA</p>	
<p>Digital outputs</p>	<p>Opto-coupler transistor outputs</p>	
<p>Max. output current mA</p>	<p>100</p>	
<p>Output voltage V DC</p>	<p>5..40</p>	
<p></p>	<p></p>	<p></p>
<p></p>	<p></p>	<p></p>
<p></p>	<p></p>	<p></p>
<p></p>	<p></p>	<p></p>

## The CML-UI-UI-G Voltage and Current Converter Unit

### With galvanic isolation

CONTA-CLIP has expanded its CML 6.2-mm series with the new CML-UI-UI-G unit. This voltage and current converter unit is designed for standard signals and features three-way electrical isolation between the input, output and supply voltage. The various combinations between the input and output ranges can be set using the DIP switches on the housing. After this, no external calibration of the unit is required. The three-way galvanic isolation – separating the input, output and supply voltage – enables this unit to be used both locally with measuring devices and also with large, complex control systems (in systems engineering).

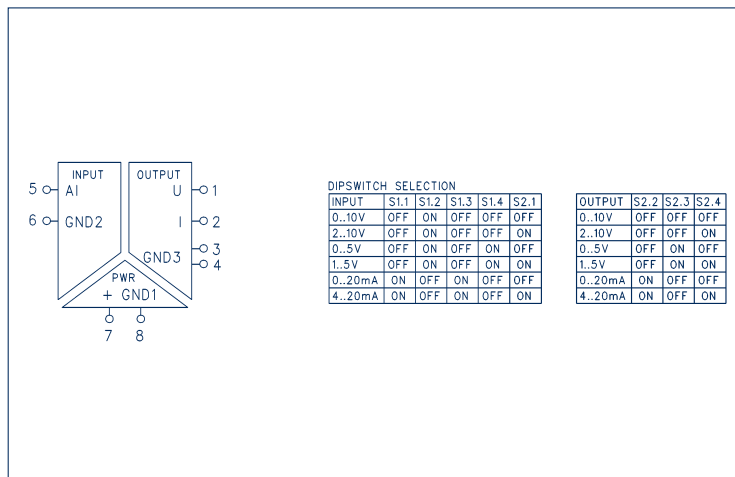


Table of functions for the CML-UI-UI-G

Input I	Output U				I	
	0...5 V	1...5 V	0...10 V	2...10 V	0-20 mA	4-20 mA
U	x	x	x	x	x	x
0...5 V	x	x	x	x	x	x
1...5 V	x	x	x	x	x	x
0...10 V	x	x	x	x	x	x
1...10 V	x	x	x	x	x	x
I						
0-20 mA	x	x	x	x	x	x
4-20 mA	x	x	x	x	x	x

# The CML-UI-UI-G Voltage and Current Converter Unit

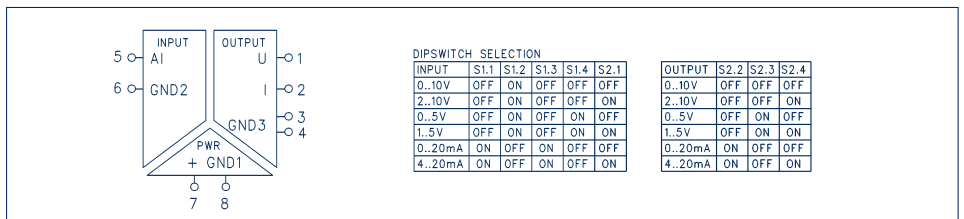
## With galvanic isolation

- Mounts on TS 35
- Compact design, width: 6.2 mm
- Screw connection
- Three-way galvanic isolation between the input, output and supply voltage
- Input: 0..10 V, 2..10 V, 0..5 V, 1..5 V  
0..20 mA, 4..20 mA
- Output: 0..10 V, 2..10 V, 0..5 V, 1..5 V  
0..20 mA, 4..20 mA
- Input and output signals are adjustable via DIP switch
- No external calibration required
- Other designs available upon request

### CML-UI-UI-G



### Circuit diagram



Type	CML-UI-UI-G	Qty.
Cat. no.	15903.2	1
Size (L x W x H) with TS 35 x 7.5 mm	93.1 x 6.2 x 102.5	
Weight, g	66	
General information		
EMC specifications	EN 55011 / EN 61326-1	
Electromagnetic properties	In compliance with the EMC Directive 2001/108/EC	
Protection class	IP 20	
Operating temperature	-20 to +55 °C	
Connection type	Screw connection	
Connection cross-section, mm <sup>2</sup>	0.2-2.5	
Screw connection	AWG 22-14	
Stripping length, mm	12	
Power supply, V DC	24 (±10%)	
Current consumption, mA	45 @ no load	
Transmission errors	< 0.2% of end value	
Conversion errors	< 0.2% of end value	
Temperature coefficient	< 0.02% / K	
Insulation voltage (power supply / signal)	1 kV, 50 Hz, 1 min	
Insulation voltage (input / output)	1 kV, 50 Hz, 1 min	
Frequency limit (-3dB) Hz	10	
Input data		
Input signals (adjustable via DIP switch)	0(2) to 10 V / 0(1) to 5 V / 0(4) to 20 mA (default setting: 0 to 10 V)	
Max. input signal	20 V, 20 V, 40 mA	
Input resistance	>50 kOhm/ >50 kOhm / 50 Ohm	
Output data		
Voltage output signal (adjustable via DIP switch)	0(2) to 10 V / 0(1) to 5 V (default setting: 0 to 10 V)	
Max. voltage output signal, V	approx. 10.5	
Load resistance, kOhm	> 1	
Max. offset, U mV	20	
Current outputs (adjustable via DIP switch), mA	0 to 20 or 4 to 20	
Max. output current, mA	approx. 21	
Load resistance, kOhm	< 500	
Max. offset, µA	40	

## The PFBZ PCB Plug-In Connector with Pressure-Spring Connection System

### In 3.81-mm pitch

The CONTA-CON connector system line from CONTA-CLIP offers a wide-ranging line of pluggable connectors for your PCB applications. Thanks to the diverse range of different models, the CONTA-CON line of connectors comes with many possible connection methods.

The CONTA-CON connector system consists mainly of two parts: a terminal (male pin header) fixed to the PCB and a pluggable female socket block. The following connection methods are available for the socket block: wire-protection, strain-relief clamp, tension spring, leg spring, and eccentric-top. Plug-in connectors from CONTA-CON cover an extensive range of products and offer a wide variety of combination possibilities. The socket blocks are plug-compatible with all terminals of the same pitch. This product line features outstanding ease of use as well as

adjacent alignment and coding without loss of poles. The terminals are available with open or closed side walls, as single-level or double level, with a horizontal or vertical connection angle, and with or without screw flange. Accessories include coding rings, individual terminal-point covers, sealing plugs per terminal contact and labeling systems. Additional information can be found in our new CONTA-CON PCB Connectors Catalog, now available in German, English, Italian, French and Russian.

## Detailed Characteristics

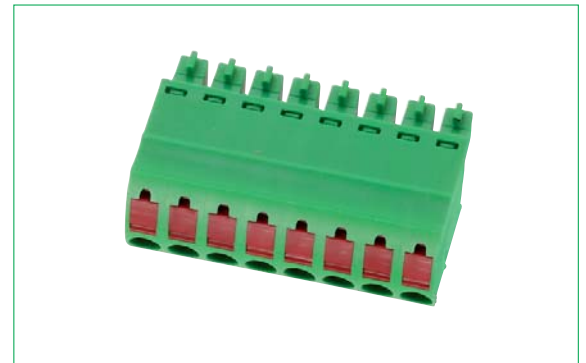
### PFBZ 4551/.../3.81-(F)KD

Our new products include the PFBZ 4551 PCB plug-in connector in 3.81-mm pitch, featuring a direct-insert connection method with a modern, innovative design. The connector is plug compatible with all terminal pin headers in the STL 1550, STL1570 and STL1590 series. An integrated push-blade makes connecting and disconnecting wires easy and quick.

The additional per-contact test point allows you to test the connection safely. The PFBZ 4551 is available in 2-16-pole versions and also in flanged versions.

#### Our benefits

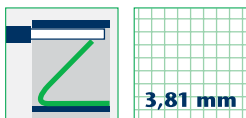
- A design which is modern, innovative and functional
- Versions ranging from 2 to 16 poles
- Direct-insert connection method saves time
- Push-blade feature allows wires to be disconnected without problems
- Easy-to-reach test point
- Compatible with the STL 1550, STL1570 and STL1590 terminal pin header lines
- Also available as flanged version
- Available on request as a PFBZ 4561, with 180°-rotated mating profile



#### Application areas

- Control systems
- Household systems and home automation
- Housing control technology
- Locking technology
- Telecommunications
- Bus technology

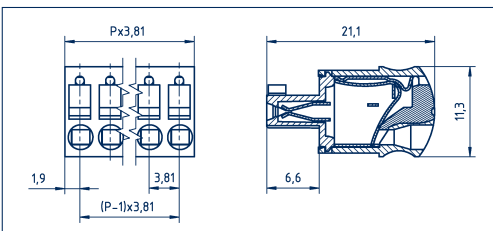
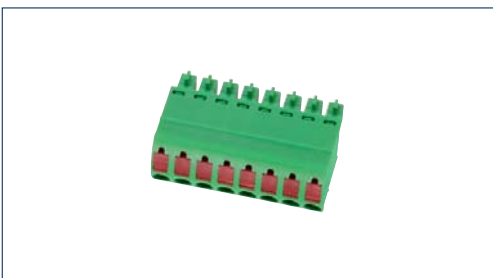
PCB plug-in connectors  
Female socket block



Standard version is also available on request as a PFBZ 4561, with 180°-rotated mating profile

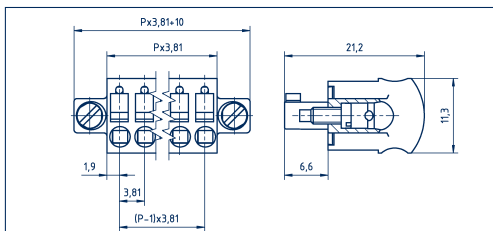
Drawings

PFBZ 4551/.../3.81-KD



Leg spring

PFBZ 4551/.../3.81-FKD



Leg spring

Connection type  
Dimensions

Pitch, mm  
Stripping length, mm  
Drill hole diameter, mm

Cross-section  
Single wire (solid), mm<sup>2</sup>  
Flexible, mm<sup>2</sup>  
Flexible (with ferrule), mm<sup>2</sup>

Ratings  
Rated voltage, V  
Rated current, A  
Wire size, solid, AWG/mm<sup>2</sup>  
Wire size, flexible, AWG/mm<sup>2</sup>

Rated surge voltage, kV  
Torque / screw size  
Contamination degree

Material

Insulation material / Flamm. class  
Temperature range  
Clamping element  
Clamping cage / cam  
Contact pin  
Spring  
Wire protection  
Soldering lug  
Contact spring

Order information

Standard color(s)  
(Other colors on request)

3.81  
7  
–  
1.5  
1  
1

300	160
10	10 (T60)
26-14	1.5
26-16	1.5

2.5  
–  
3

PA 6.6 V0 / UL 94 V0  
-30 to +105 °C

–  
–  
–  
Stainless steel  
–  
–  
CuSn

No. of poles	Cat. No.	Qty.
	●	
	green	
	(Ral 6018)	
2	14000.1	50
3	14001.1	50
4	14002.1	50
5	14003.1	50
6	14004.1	50
7	14005.1	50
8	14006.1	50
9	14007.1	50
10	14008.1	50
11	14009.1	50
12	14010.1	50
13	14011.1	50
14	14012.1	50
15	14013.1	50
16	14014.1	50

3.81  
7  
–  
1.5  
1  
1

300	160
10	10 (T60)
26-14	1.5
26-16	1.5

2.5  
–  
3

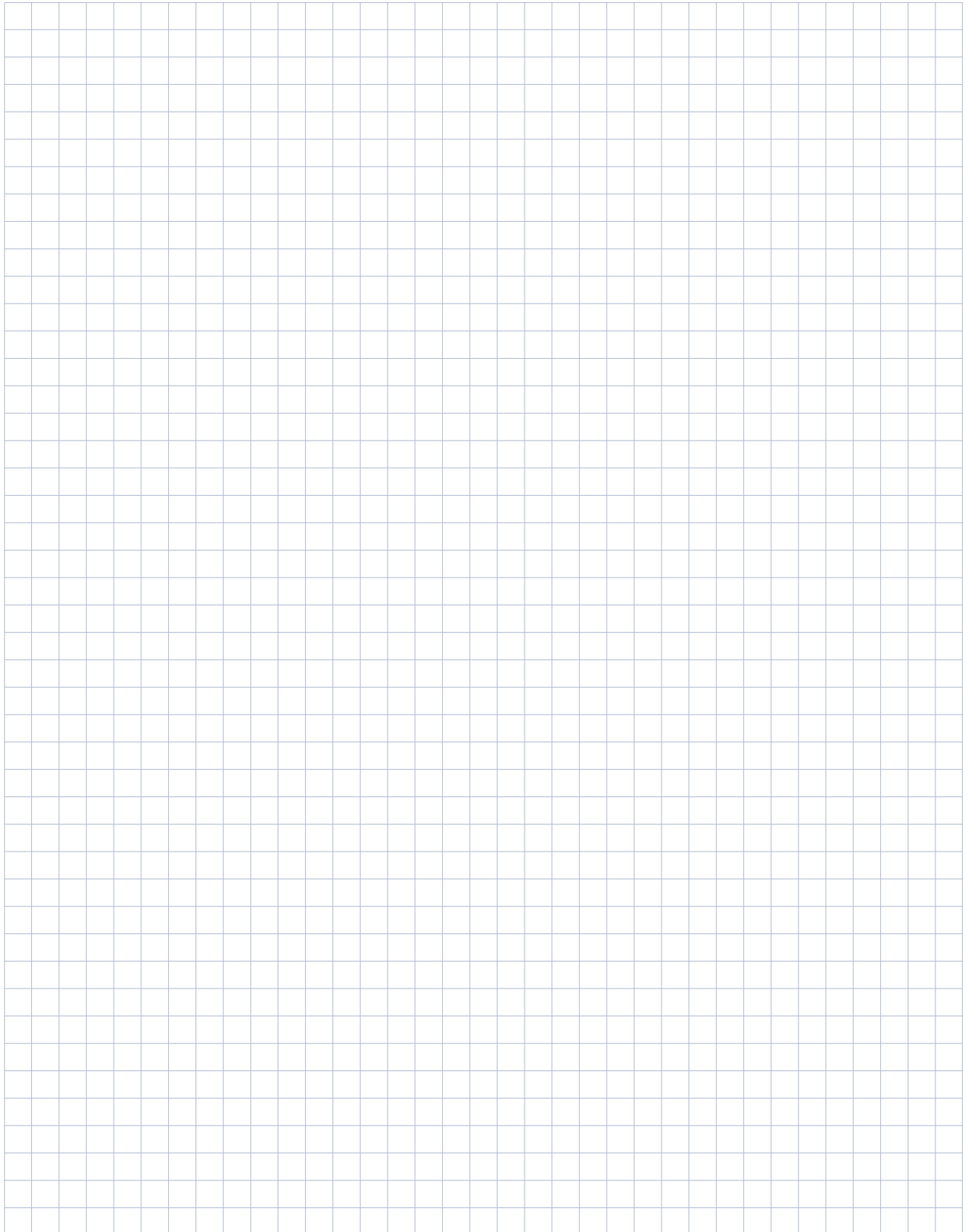
PA 6.6 V0 / UL 94 V0  
-30 to +105 °C

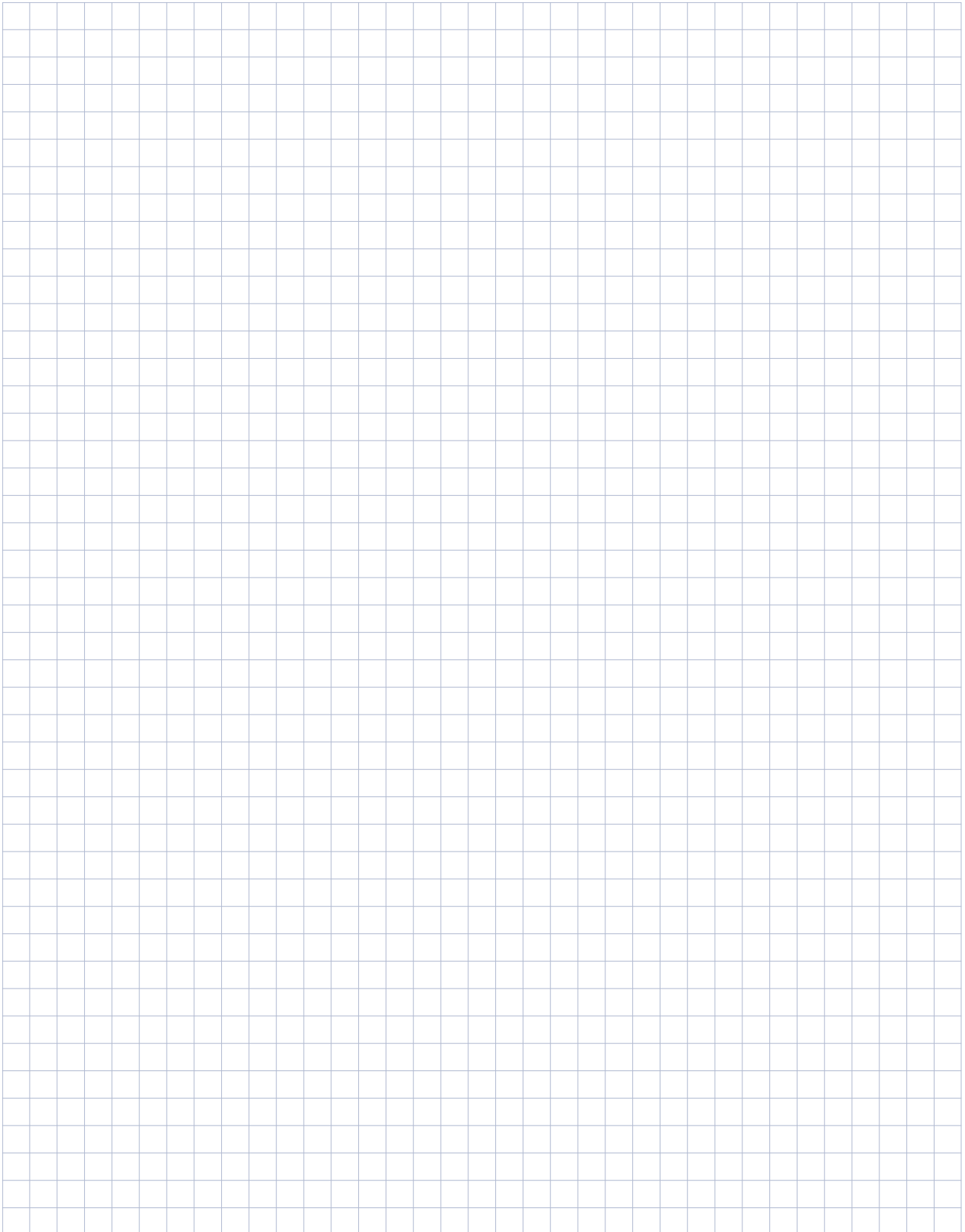
–  
–  
–  
Stainless steel  
–  
–  
CuSn

No. of poles	Cat. No.	Qty.
	●	
	green	
	(Ral 6018)	
2	14015.1	50
3	14016.1	50
4	14017.1	50
5	14018.1	50
6	14019.1	50
7	14020.1	50
8	14021.1	50
9	14022.1	50
10	14023.1	50
11	14024.1	50
12	14025.1	50
13	14026.1	50
14	14027.1	50
15	14028.1	50
16	14029.1	50

Notes

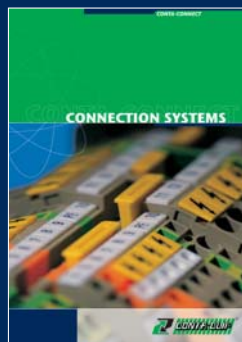
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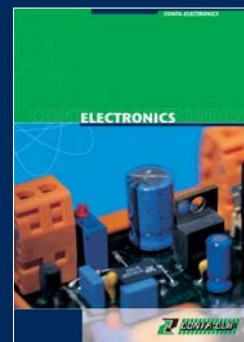


## An Overview of the Portfolio

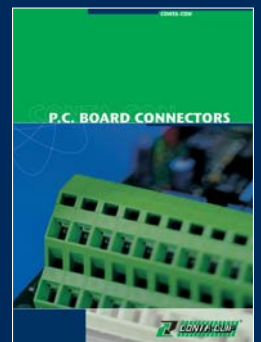
CONTA-CONNECT  
[Connection Systems]



CONTA-ELECTRONICS  
[Electronics]



CONTA-CON  
[PCB Connectors]



Additional information is available at:



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