

# **Quick Mating**





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# **SMS Series**

# Overview

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**SOURIAU** 

# **Typical applications**









Railway - Closed from electrical operating areas





### Features & Benefits

# **EASY TO USE**

# **Quick Mating / Unmating Mechanism**

Push to mate - Press and release to unmate. A simple operation with only two fingers.



# **High Flammability Rating**

The SMS series offers a flame retardant version (UL94 V0 & HL3/R22 following the EN 45545-2) to guarantee secure and safe equipment.



## **Reliable Solution**

Pin protection skirts, positive polarization keys and retention locks will ensure correct mating between the plug and the receptacle.



# **High Density Solution**

With a pitch of 5.08mm and a low profile version availability, SMS series is ideal for tight space integration and high density applications (3 to 36 positions).



## Two In One

Integrated strain relief hood versions are available to offer a highly cost-effective solution.

# **SMS Series**

# Connector

SMS Quick Mating	10
SMS Board mount Quick Mating	1
SMS Quick Mating Pin Header	2
Discrimination keys	2

**SOURIAU** 

# **Quick Mating panel** and cable connectors

### Description

The versatile and easy to use "SMS" Quick Mating panel and cable connectors are a highly cost-effective system approach to solving the constant demand for more interconnection solutions and techniques.

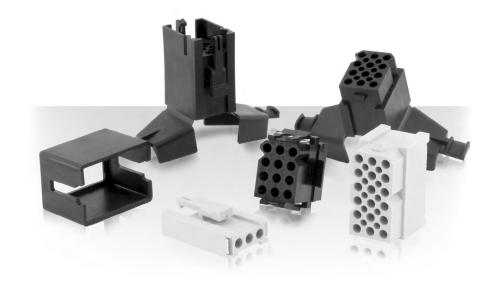
A full plastic solution offered in either Wire attachment or PCB mounting options to provide rapid assembly/installation without requiring additional mounting hardware. Panel receptacle connectors simply snap and lock into panel cut-outs and cable plugs quickly connect and disconnect with positive retention locks. Just push to mate then press and release to un-mate.

In addition, cable plug connectors also feature pin-protection skirts, positive polarization and are offered with or without integrated strain relief hoods. Cable receptacle connectors (with integrated strain relief hoods) are available to mate with the cable plug connectors for cableto-cable solutions when needed.

These multi-way connectors accept the Size 16 TRIM TRIO (1.6mm) diameter contacts and are available with 10 contact arrangements from 2 to 36 positions.

### Features and benefits

- Available in 10 contact arrangements
- Self mountable panel receptacle with positive housing retention
- Cable plugs with retaining latches for positive locking
- Cable plug has pin protection skirt to prevent damage of male contacts
- Positive polarization keys prevent mismating
- Cable plug and receptacle have integrated strain relief hood which can accept a wide range of cables
- Cable plug and receptacle have discrimination cavities in between contact cavities, thus offering discrimination without contact loss. See instruction page 27.
- UL recognized File Nr.: E238675 • CSA certififed File Nr.: LR44961-21



### **Environmental**

- Operating temperature: -55°C to +105°C
- Insulation resistance: 5000 M $\Omega$  min.
- Test potential: 2000 VAC
- Durability: 500 matings and unmatings
- Sealing performances: IP40
- Electrical performances: UL: 250V - 10A CSA: 250V - 15A

### Wire insulation acceptance

- SMS PDH1, RDH1, PD3, PDH3, RD3, RDH3 max: 3.2mm
- SMS R1, P1, R3 max: 4.19mm

### Material

- Connector: Polyamide 6.6
- Flammability rating:
  - Black versions : UL94 V2
- White versions : UL 94 VO and
- HL3/R22 HL3/R23 following EN 45 545-2

#### Contact

- "SMS" Quick Mating connectors accept TRIM TRIO size 16 removable snap-lock contacts (see contact section)
- Contacts to be ordered seperately.

### Ordering information

Connector family 12 PDH3

Layout: see page 12

### **Body variation:**

R1: (UL94 V2) Panel mount receptacle - Black

R3: (UL94 V0 & HL3/R22 - HL3/R23) Panel mount receptacle - White

P1: (UL94 V2) Cable plug without strain relief hood - Black

PD3: (UL94 V0 & HL3/R22 - HL3/R23) Cable plug without strain relief hood - White

PDH1: (UL94 V2) Cable plug with integrated strain relief hood - Black

PDH3: (UL94 VO & HL3/R22 - HL3/R23) Cable plug with integrated strain relief hood - White

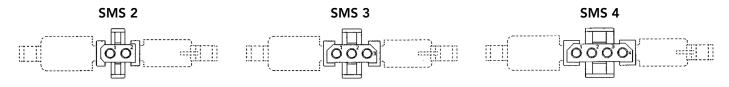
RD3: (UL94 V0 & HL3/R22 - HL3/R23) Cable receptacle without integrated strain relief hood - White

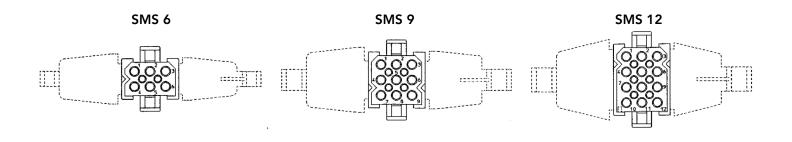
RDH1: (UL94 V2) Cable receptacle with integrated strain relief hood - Black

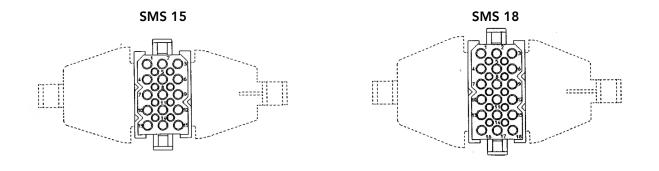
RDH3: (UL94 V0 & HL3/R22 - HL3/R23) Cable receptacle with integrated strain relief hood - White

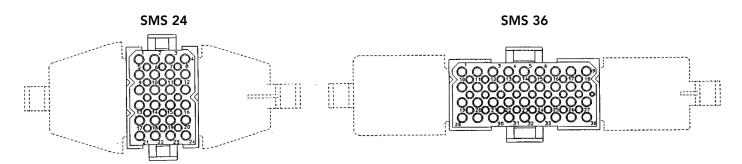
# Range overview - Quick mating & board mount connectors SMS...R1/ SMS...R3 Panel mount receptacle SMS...RDH1/SMS...RDH3 SMS...PDH1/SMS...PDH3 Cable receptacle with strain relief hood Cable plug with strain relief hood SMS...RD3 Cable receptacle without strain relief hood SMS...P1/SMS...PD3 Cable plug without strain relief hood SMS...GE3-SE3/SMS...GE30-RE30 SMS...GE33/SMS...GE4-SE4/ SMS...GE40-RE40/SMS...GE43 Straight board mount SMS...GE5-SE5/ SMS...GE53 SMS...GE6-SE6/SMS...GE63 Right angle board mount

# **Contacts layout**







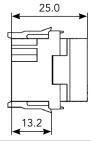


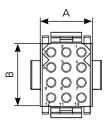
Contact identifications shown are for mating face. Contact identifications of wiring face are identical as shown on the receptacle arrangements

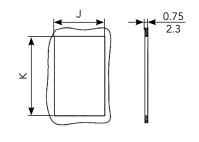
## **Connectors**

### Panel mount receptacle without discrimination cavities (wire acceptance: 4.19mm)





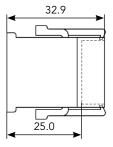


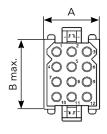


Part number		Nbr. of contact*			C max.		
Black UL94 V2	White UL94 V0	Nor. of contact^	A	В	C max.	J	K
SMS2R1	SMS2R3	2	11.0			11.4	
SMS3R1	SMS3R3	3	16.2	5.8	15.2	16.5	11.6
SMS4R1	SMS4R3	4	21.1			21.7	
SMS6R1	SMS6R3	6		10.9	20.3	16.5	16.7
SMS9R1	SMS9R3	9		16.0	25.4	10.5	21.6
SMS12R1	SMS12R3	12	16.2	21.1	30.5	16.7	26.7
SMS15R1	SMS15R3	15		26.2	35.6		31.8
SMS18R1	SMS18R3	18		31.2	40.6		36.9
SMS24R1	SMS24R3	24	21.2	31.2	40.6	21.7	36.9
SMS36R1	SMS36R3	36	46.6	21.1	30.5	47.1	26.7

# Cable plug without strain relief hood & without discrimination cavities (wire acceptance: 4.19mm)

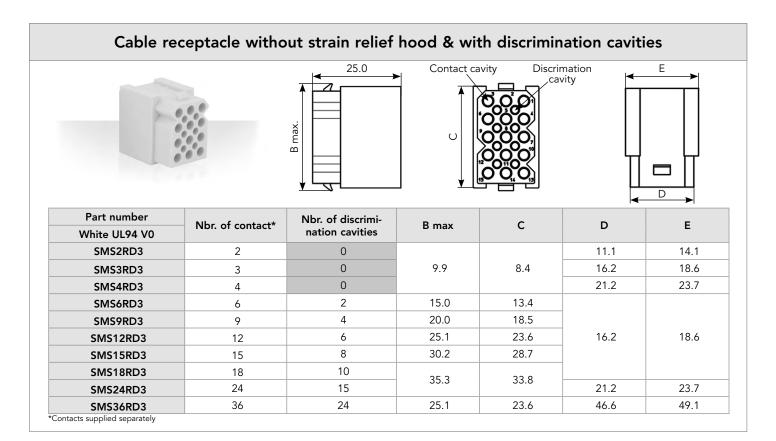


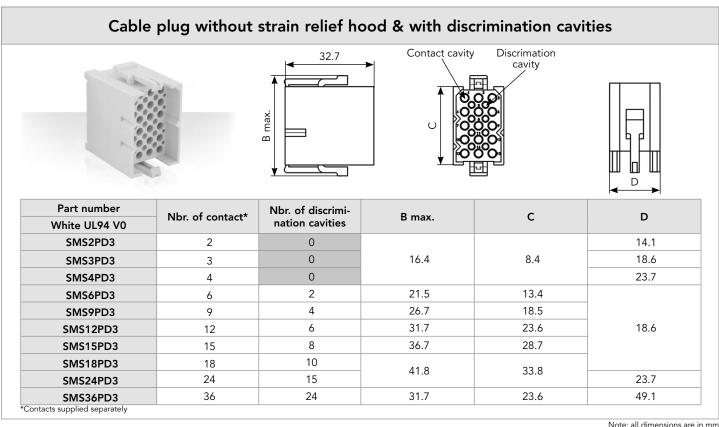




Part number	Nbr. of contact*		C max.
Black UL94 V2	INDI. Of CONTACT"	A	C max.
SMS2P1	2	15.0	
SMS3P1	3	18.6	17.8
SMS4P1	4	23.7	
SMS6P1	6		22.9
SMS9P1	9		27.9
SMS12P1	12	18.6	33.0
SMS15P1	15		38.1
SMS18P1	18		42.2
SMS24P1	24	23.7	43.2
SMS36P1	36	49.1	33.0
*Contacts supplied separately			

Note: all dimensions are in mm

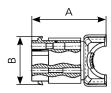


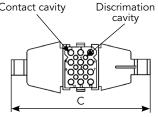


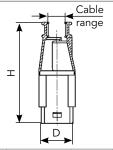
# Connectors (Continued)

### Cable receptacle with integrated strain relief hood Contact cavity Discrimation





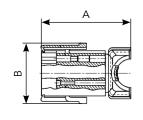


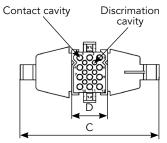


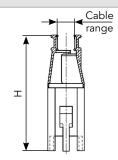
Part n	Part number		Nbr. of Nbr. of discrimi-	Α	АВ	С	D	н	Cable	Cable
Black UL94 V2	White UL94 V0	contact*	nation cavities	A	ь			П	range (mm)	tie (1)
SMS2RDH1	SMS2RDH3	2	0	31.6		11.1	0.5		0.5-8.4	
SMS3RDH1	SMS3RDH3	3	0	35.1	9.9	69.0	16.2 21.2	49.2	0.8-7.3	TF4D
SMS4RDH1	SMS4RDH3	4	0	38.2		74.4			1.5-10	
SMS6RDH1	SMS6RDH3	6	2	34.6	15.0	72.6			1.7-9.2	
SMS9RDH1	SMS9RDH3	9	4	35.8	20.0	75.3			3.9-14.2	
SMS12RDH1	SMS12RDH3	12	6	38.1	25.1	72.0	16.2		4.0-15.0	
SMS15RDH1	SMS15RDH3	15	8	35.9	30.2	81.3			5.0-16.2	
SMS18RDH1	SMS18RDH3	18	10	36.1	35.3	01.3		55.2	5.8-20.3	
SMS24RDH1	SMS24RDH3	24	15	39.7	33.3	90.4	21.2	57.2	7.1-20.4	
SMS36RDH1	SMS36RDH3	36	24	54.6	25.1	128.0	46.6	63.3	8.8-24.5	

# Cable plug with integrated strain relief hood









Part r	umber	Nbr. of	Nbr. of discrimi-	Α	В	С	D	Н	Cable	Cable
Black UL94 V2	White UL94 V0 (2)	contact*	nation cavities	A	Ь		, D	П	range (mm)	tie (1)
SMS2PDH1	SMS2PDH3	2	0	39.5		64.8	14.1		0.5-8.4	
SMS3PDH1	SMS3PDH3	3	0	43.0	16.4	69.0	18.6	57.1	0.8-7.3	TEAD
SMS4PDH1	SMS4PDH3	4	0	46.1		74.4	23.7		1.5-10	TF4D
SMS6PDH1	SMS6PDH3	6	2	42.5	21.5	72.6		58.8 60.1	1.7-9.2	
SMS9PDH1	SMS9PDH3	9	4	43.7	26.7	75.3			3.9-14.2	
SMS12PDH1	SMS12PDH3	12	6	46.0	31.7	72.0	18.6	60.6	4.0-15.0	
SMS15PRDH1	SMS15PDH3	15	8	43.8	36.7	81.3		42.1	5.0-16.2	TF5D
SMS18PDH1	SMS18PDH3	18	10	44.0	41.8	01.3		63.1	5.8-20.3	
SMS24PDH1	SMS24PDH3	24	15	47.6	41.0	90.4	23.7	65.1	7.1-20.4	
SMS36PDH1	SMS36PDH3	36	24	62.5	31.7	128.0	49.1	71.2	8.8-24.5	
*Contacts supplied separa	tely (1) Cable tie not incl	uded (2) Wł	nite UL94 V0 & HL3/R22 -	HL3/R23						

Note: all dimensions are in mm

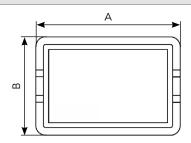
# Accessories for standard Quick Mating connectors

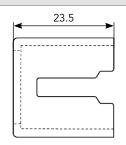
### Pin protection shroud for panel mount receptacle



When pins are inserted into the panel mount receptacle half (SMS...R1) of the Quick Mating connector, an optional pin protection shroud can be installed.

The shroud is mounted at the same time as the receptacle by holding the shroud against the mating side of the panel with both cutouts lined up. The receptacle is then inserted in place, trapping the shroud between the receptacle and panel. The use of the pin protection shroud reduces the allowable thickness of the panel from 2.3 to 1.6 mm max.





Part number	Nbr. of contact	Α	В
Black UL94 V2	position	A	Ь
SMS2CSB1	2	19.8	
SMS3CSB1	3	23.4	18.8
SMS4CSB1	4	28.4	
SMS6CSB1	6		23.9
SMS9CSB1	9		29.0
SMS12CSB1	12	23.4	34.0
SMS15CSB1	15		39.1
SMS18CSB1	18		44.2
SMS24CSB1	24	28.4	44.2
SMS36CSB1	36	54.1	34.0

### Strain relief hoods



For SMS2H1, SMS3H1, SMS4H1 & SMS6H1



2 pieces are needed for a complete hool for SMS9H1 to SMS36H1

Separate strain relief hoods are available for all standard plugs SMS...P1. The hoods consist of identical halves that snap into position on the plug and are secured in place with the cable tie drawn tightly around the cable entry collar.

The cable tie is not included (TF4D - TF5D).

Two, three and four position hoods are single piece units.

Part number Black UL94 V2	Nbr. of contact position
SMS2H1	2
SMS3H1	3
SMS4H1	4
SMS6H1	6
SMS9H1	9
SMS12H1	12
SMS15H1	15
SMS18H1	18
SMS24H1	24
SMS36H1	36

### Discrimination pins

For discrimination pins on both standard Quick Mating and Quick Mating Pin Headers cable and board mount: See page 27.

# **Quick Mating PC** board mount connectors

### Description

These PC board mount connectors enable Quick Mating and preassembled TRIM TRIO contacts to be PC board mounted, using conventional solder production techniques. They will then mate and latch with the standard Quick Mating plugs.

Straight board mount connectors is available in 10 insert arrangements from 2 to 36 positions. Right angled board mount Quick Mating is available in 3, 6, 12 and 18 positions.

All board mount connectors are supplied fully loaded with pin or socket contacts, either in solid machined or stamped and formed

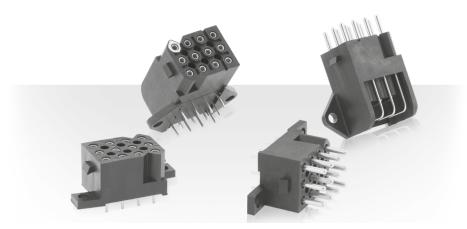
Stamped and formed contact have selective tin plating on the solder tails, thus eliminating flux operations.

### Features and benefits

- Straight versions available in 10 contact arrangements from 2 to 36 positions
- Right angled versions available in 3, 6, 12 and 18 positions.
- All versions are available with:
  - Pin or socket contacts
- Stamped and formed or solid machined contacts
- · Board mount connectors have discrimination cavities in between contact cavities, unless other wise noted. See instruction page 27.
- UL recognized File Nr.: E238675 • CSA certififed File Nr.: LR44961-21

#### **Environmental**

- Operating temperature: -55°C to +105°C
- Insulation resistance: 5000 M $\Omega$  min.



- Test potential: 2000 VAC
- Current rating for SMS PCB version:
  - 5 Amp for stamped and formed contacts - 7.5 Amp for machined contacts
- Electrical performances for crimped versions: UL: 250V - 15A CSA: 250V - 15A
- Durability: 500 matings and unmatings
- Sealing performances: IP40

### Material

- Connector body:
- Glass filled thermoplast UL94 V0
- Railway version :
- HL2/R22 HL2/R23 following EN 45 545-2
- High conductive copper alloy
- Soldering information: compatible with wave soldering up to 245°C. Not compatible with reflow soldering.

### Plating table

- Plating for solid machined contacts:
- Made for 2.4mm or 3.2mm PCB thickness (straight contacts) and for 3.2mm PCB thickness (right contacts)

- K9 (std) = Min. 0.4µ Gold in contact area, Tin on solder tail, over Nickel
- **J9** = Gold flash in contact area, Tin on solder tail, over Nickel
- $T = 3 5\mu$  Tin all over

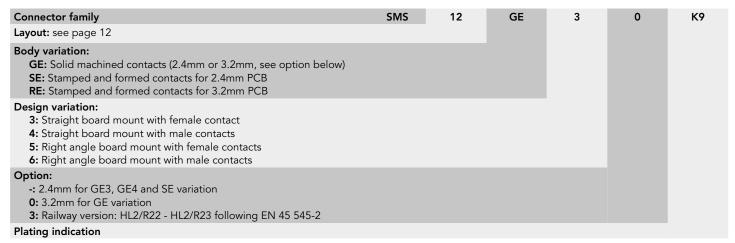
#### • Plating for Stamped and formed contacts:

- Made for 2.4mm PCB thickness (straight contacts) and for 3.2mm PCB thickness (right contacts)
  - K9 = Min. 0.4μ Gold in contact area,  $3-5\mu$  Tin on solder tail, over Nickel
  - $T = 3 5\mu$  Tin all over
- Made for 3.2mm PCB thickness (straight contacts)
  - **S6** = Min.  $0.75\mu$  Gold in contact area Gold flash on solder tail, over Nickel
  - D70 = Gold flash all over
  - $TR29 = 3 5\mu Tin all over$

### Intermateability

"SMS" Quick Mating board mount connectors with preassembled TRIM TRIO size 16 board mount contacts are intermateable only with the "SMS" Quick Mating cable plug connectors equipped with TRIM TRIO crimp type removable snap-lock contacts (see contact section).

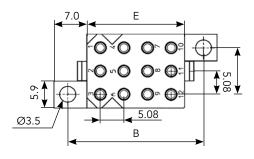
# Ordering information

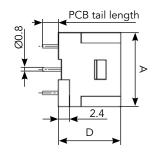


# **Connectors**

## Straight board mount with female contacts







#### **Dimensions**

Nbr. of contact	Nbr. of discrimination cavities	A	В	С	D	E
2	0	11.0	-	19.1		
3	0	16.2	14.0	10.2		5.9
4	0	21.3	14.0	15.2		
6	0		19.2		13.4	10.9
9	4		24.2			16.0
12	0	16.2	29.2	10.2		21.1
15	8		34.3			26.1
18	10		39.4			21.2
24	0	21.2	39.4	15.2		31.2
36	0	46.5	15.2	54.6		20.9

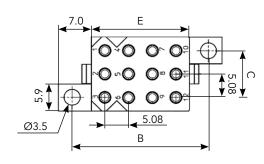
### Contacts type

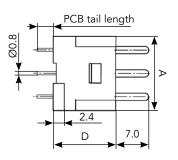
Part number					
	Standard	d version		NFF certified version	
Solid machin	ned contacts	Stamped & fo	rmed contacts	Solid machined contacts	
PCB thickness 2.4mm PCB tail length 3.4mm	PCB thickness 3.2mm PCB tail length 4.2mm	PCB thickness 2.4mm PCB tail length 3.4mm	PCB thickness 3.2mm PCB tail length 4.4mm	PCB thickness 2.4mm PCB tail length 3.4mm	
SMS2GE3*	SMS2GE30*	SMS2SE3*	SMS2RE3*	-	
SMS3GE3*	SMS3GE30*	SMS3SE3*	SMS3RE3*	SMS3GE33*	
SMS4GE3*	SMS4GE30*	SMS4SE3*	SMS4RE3*	-	
SMS6GE3*	SMS6GE30*	SMS6SE3*	SMS6RE3*	SMS6GE33*	
SMS9GE3*	SMS9GE30*	SMS9SE3*	SMS9RE3*	SMS9GE33*	
SMS12GE3*	SMS12GE30*	SMS12SE3*	SMS12RE3*	SMS12GE33*	
SMS15GE3*	SMS15GE30*	SMS15SE3*	SMS15RE3*	SMS15GE33*	
SMS18GE3*	SMS18GE30*	SMS18SE3*	SMS18RE3*	SMS18GE33*	
SMS24GE3*	SMS24GE30*	SMS24SE3*	SMS24RE3*	SMS24GE33*	
SMS36GE3*	SMS36GE30*	SMS36SE3*	SMS36RE3*	SMS36GE33*	

\* for coding see page 30 Example: SMS12GE3J9 - SMS with 12 solid machined contacts, plating J9

## Straight board mount with male contacts







#### **Dimensions**

Nbr. of contact	Nbr. of discrimination cavities	А	В	С	D	E
2	0	11.1	-	19.1		
3	0	16.2	14.0	10.2		5.9
4	0	21.3	14.0	15.2		
6	0		19.2			10.9
9	4		24.2		12.4	16.0
12	0	16.2	29.2	10.2	13.4	21.1
15	8		34.3			26.1
18	10		21.2 39.4 15.2			21.2
24	0	21.2			31.2	
36	0	46.5	15.2	54.6		20.9

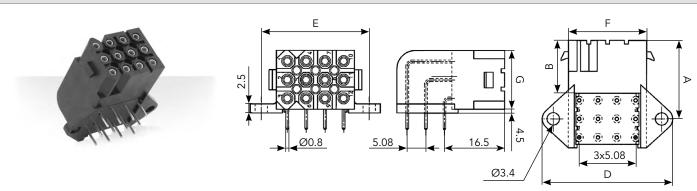
### Contacts type

Part number					
	Standard	d version		NFF certified version	
Solid machi	ned contacts	Stamped & fo	rmed contacts	Solid machined contacts	
PCB thickness 2.4mm PCB tail length 3.4mm	PCB thickness 3.2mm PCB tail length 4.2mm	PCB thickness 2.4mm PCB tail length 3.4mm	PCB thickness 3.2mm PCB tail length 4.4mm	PCB thickness 2.4mm PCB tail length 3.4mm	
SMS2GE4*	SMS2GE40*	SMS2SE4*	SMS2RE4*	-	
SMS3GE4*	SMS3GE40*	SMS3SE4*	SMS3RE4*	SMS3GE43*	
SMS4GE4*	SMS4GE40*	SMS4SE4*	SMS4RE4*	-	
SMS6GE4*	SMS6GE40*	SMS6SE4*	SMS6RE4*	SMS6GE43*	
SMS9GE4*	SMS9GE40*	SMS9SE4*	SMS9RE4*	SMS9GE43*	
SMS12GE4*	SMS12GE40*	SMS12SE4*	SMS12RE4*	SMS12GE43*	
SMS15GE4*	SMS15GE40*	SMS15SE4*	SMS15RE4*	SMS15GE43*	
SMS18GE4*	SMS18GE40*	SMS18SE4*	SMS18RE4*	SMS18GE43*	
SMS24GE4*	SMS24GE40*	SMS24SE4*	SMS24RE4*	SMS24GE43*	
SMS36GE4*	SMS36GE40*	SMS36SE4*	SMS36RE4*	SMS36GE43*	

\* for coding see page 30 Example: SMS12GE4J9 - SMS with 12 solid machined contacts, plating J9

# **Connectors** (Continued)

## Right angle board mount with female contacts



#### **Dimensions**

Nbr. of contact	Nbr. of discrimination cavities	Α	В	С	D	E	F	G
3	0	16.5		20.5	30.2	24.2	16.2	6.8
6	0	19.0	144	24.5	30.2	24.2	10.2	11.9
12	6	21.6	14.4	20 E	35.2	29.2	21.2	17.0
18	10	21.0		29.5	45.4	39.4	31.2	17.2

### Contacts type

	Part number		
Standa	rd version	NFF certified version	
Solid machined contacts	Stamped & formed contacts	Solid machined contacts	
PCB thickness 3.2mm PCB tail length 4.5mm	PCB thickness 3.2mm PCB tail length 4.5mm	PCB thickness 3.2mm PCB tail length 4.5mm	
SMS3GE5*	SMS3SE5*	SMS3GE53*	
SMS6GE5*	SMS6SE5*	SMS6GE53*	
SMS12GE5*	SMS12SE5*	SMS12GE53*	
SMS18GE5*	SMS18SE5*	SMS18GE53*	

\* for coding see page 30 Example: SMS12GE5J9 - SMS with 12 solid machined contacts, plating J9

#### Right angle board mount with male contacts 5.08 16.5 3x5.08 D **Dimensions** Ø3.4 Nbr. of discrimination Nbr. of contact Α В С Ε G D cavities 0 3 16.5 20.5 6.8 30.2 24.2 16.2 0 19.0 24.5 11.9 6 14.4 12 6 35.2 29.2 21.2 21.6 29.5 17.2

### Contacts type

18

	Part number	
Standa	rd version	NFF certified version
Solid machined contacts	Stamped & formed contacts	Solid machined contacts
PCB thickness 3.2mm PCB tail length 4.5mm	PCB thickness 3.2mm PCB tail length 4.5mm	PCB thickness 3.2mm PCB tail length 4.5mm
SMS3GE6*	SMS3SE6*	SMS3GE63*
SMS6GE6*	SMS6SE6*	SMS6GE63*
SMS12GE6*	SMS12SE6*	SMS12GE63*
SMS18GE6*	SMS18SE6*	SMS18GE63*

45.4

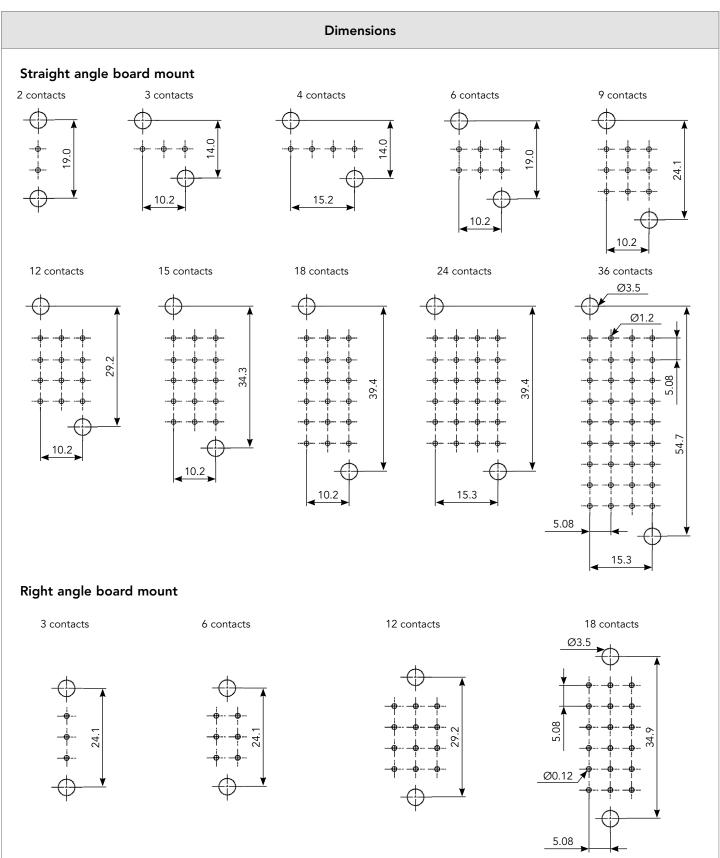
39.4

31.2

\* for coding see page 30 Example: SMS12GE6J9 - SMS with 12 solid machined contacts, plating J9

10

# **Drilling Pattern**



Note: all dimensions are in mm

Secure connector with screws (not supplied), recommended torque 0.3 N.m

# **Quick Mating PC** board mount Pin Headers and plugs

### Description

Quick Mating Pin Header, available in 3, 4, 6, 9 and 10 positions, provides the additional versatility of straight and right angle board mounting.

Offered as an alternative to stacked connectors, the in-line contact design of the pin header provides the user with significant PC board space savings.

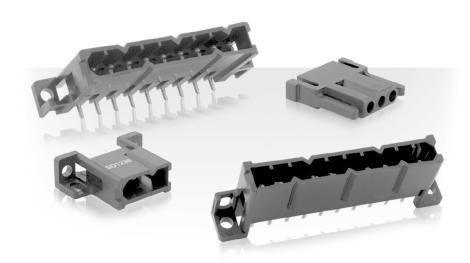
The board mount receptacle features positive polarization and a moulded on pin protection skirt and is supplied preassembled with straight or right angled:

- Solid machined or stamped and formed PC board pin contacts.
- Coax PC board pin contacts.

The socket cable plug features positive quick connect / disconnect latches and is designed to accept N° 16 TRIM TRIO 1.6mm diameter socket contacts for maximum contact protection.

#### Features and benefits

- Available in 3, 4, 6, 9 and 10 positions.
- In-line contact design, offering significant PC board space savings.
- Board mount connectors available in straight and right angled version preassembled with:
  - Solid machined or stamped and formed pin contacts.
  - Coax pin contacts.
- UL recognized File Nr.: E238675
- CSA metter certififed File Nr.: LR44961-21



### **Environmental**

- Operating temperature: -55°C to +125°C
- Insulation resistance: 5000  $M\Omega$  min.
- Test potential: 2000 VAC
- Current rating:
  - 5 Amp for stamped and formed contacts
  - 7.5 Amps for machined contacts
- Durability: 500 matings and unmatings.

### Material

- Connector body: Glass filled thermoplast UL94 V0 Color: Black
- Contacts: High conductive copper alloy

### Plating table

 Plating for solid machined contacts: No digit (std) = Min.  $0.4\mu$  Gold all over, over Nickel.

J = Gold flash over 2µ Ni

 $T = 3 - 5\mu$  Tin all over

#### • Plating for Stamped and formed contacts:

D28 = Min. 0.75 $\mu$  Au over nickel.

D70 = Active part: Gold flash over Ni Crimp area: Ni

 $TR29 = 3 - 5\mu Tin all over$ 

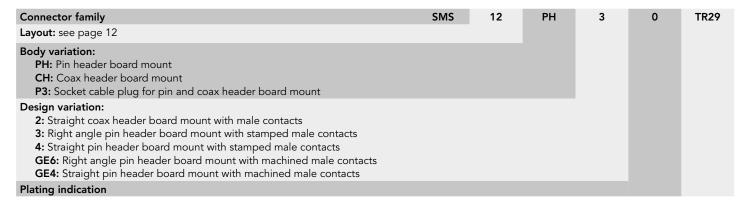
• Plating for coax contacts:

 $Z17 = Min. 0.75\mu$  Au in contact area, Flash on solder tail (inner) Min  $0.75\mu$  Au in contact area, Tin on solder tail (outer)

### Intermateability

- "SMS" Socket plugs accept TRIM TRIO size 16 removable snap-lock contacts (see contact section)
- Contacts to be ordered seperately.

# Ordering information



### **Connectors** (Continued)

#### Right angle pin header board mount with male contacts Ø3.5 Ø3.5 മ $\cap$ 22.9 Part number Nbr. of Α В С contact Solid machined contacts Stamped & formed contacts 3 SMS3PH3\* SMS3PHGE6 31.2 25.4 19.3 SMS4PH3\* SMS4PHGE6 4 36.3 30.4 24.4 SMS6PH3\* SMS6PHGE6 46.5 40.6 34.5 6 SMS9PH3\* SMS9PHGE6 61.7 55.9 49.8

SMS10PHGE6

9

10

66.8

66.8

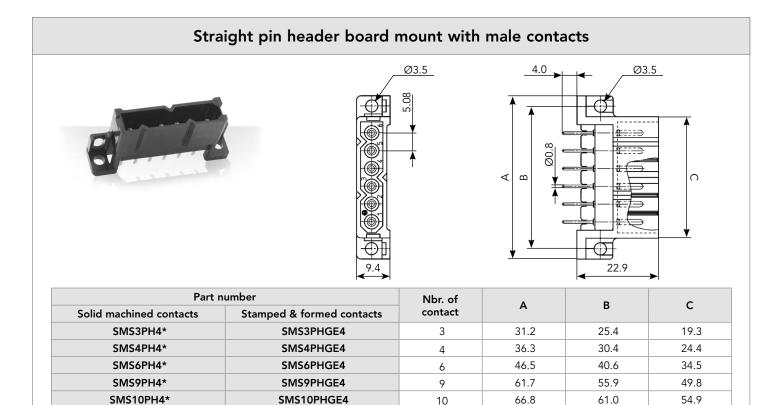
61.0

54.9

61.0

SMS10PH3\*

\* for coding see page 30 Example: SMS9PH3J9 - SMS with 9 solid machined contacts, plating J9



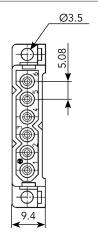
\* for coding see page 30 Example: SMS9PH4J9 - SMS with 9 solid machined contacts, plating J9 Note: all dimensions are in mm

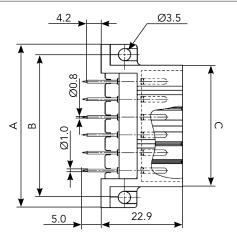
SMS10PH4\*

10

### Straight coax header board mount with male contacts





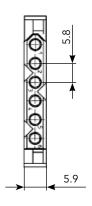


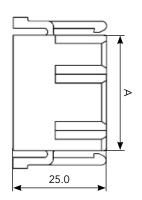
Part number	Nbr. of contact	A	В	С
SMS3CH2Z17	3	31.2	25.4	19.3
SMS4CH2Z17	4	36.3	30.4	24.4
SMS6CH2Z17	6	46.5	40.6	34.5
SMS9CH2Z17	9	61.7	55.9	49.8
SMS10CH2Z17	10	66.8	61.0	54.9

<sup>\*</sup> for coding see page 30

## Socket cable plug for pin and coax board mount header







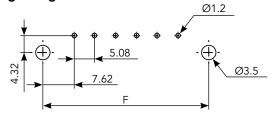
Part number	Number of contact*	Α
SMS3P3	3	16.0
SMS4P3	4	21.1
SMS6P3	6	31.2
SMS9P3	9	46.5
SMS10P3	10	51.6

<sup>\*</sup>Contacts supplied separately

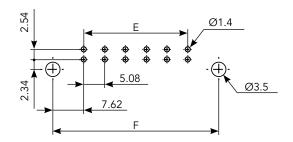
# **Drilling Pattern**

### **Dimensions**

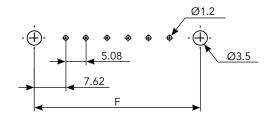
### Right angle Pin Header



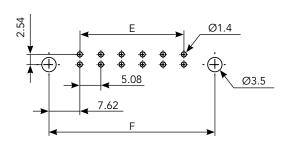
### Right angle Coax Header



### Straight Pin Header



### Straight Coax Header



Number of contact	E	F
3	10.18	25.40
4	15.24	30.48
6	25.40	40.64
9	40.64	55.88
10	45.72	60.96

# Discrimination keys for SMS connectors

In applications where similar connectors are used next to each other, mismatching can be a reason for disturbances, system failure or even danger to

To eliminate mismatching, all SMS can be equipped with discrimination solutions, which offer unlimited possibilities for a "fool-proof" interconnection

When one of these discrimination keys is used, the SMS will only mate with a connector which has a vacant contact or discrimination cavity at the corresponding position.

This system offers boundless opportunities for all applications.

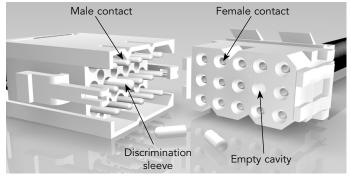
The material used is polyamide 6.6.

#### Both connectors have removable contacts: SMSPKE0



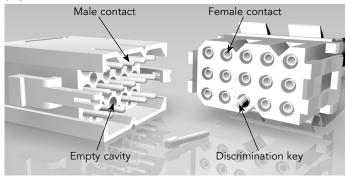
A dummy contact, which can be inserted into an empty contact cavity in any of SMS connectors.

#### Specially for connectors without discrimination cavities and without removable pin contact: SMSPKB2



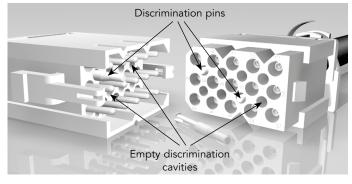
A tube, which can be fitted over a preassembled male contact in all industrial male boardmount connectors SMS.

#### For fixe female contacts and without discrimination cavities: SMSPKE2V1



A pin, which can be inserted into a preassambled female contact in all female boardmount connectors SMS.

#### Both connectors have discrimination cavities: SMSPKE3



A pin, which can be inserted in the discrimination cavities of the SMS Quick mating cable and boardmount connectors. The discrimination cavities are in between of the contact cavities and offer the advantage that no contact cavities are lost due to discrimination.

As extraction tool, the RX2025GE1 without the "extraction tool tip" can be used.



# **SMS Series**

# Contacts

Contact selector guide	30
Packaging	30
Crimp contacts	31
Tooling	31

### **Contact Selector Guide**

### Contact supplied separately

Electrical characteristics: contact resistance					
#16	Machined	< 3mΩ			
Ø1.6mm	Stamped & Formed	< 6mΩ			

Available platings (contact supplied separately)					
J	Gold flash over Nickel 2µm mini				
K	0.4 µm Gold over 2 µm Nickel mini				
\$31	Active part: Gold flash over Nickel Crimp area: 1.3µm Tin mini over Nickel Other: 1.3µm Tin mini				
S18	Active part: 0.75µm Gold mini over Nickel  Crimp area: 1.3µm Tin mini over Nickel  Other: 1.3µm Tin mini				
TK6	0.5µm - 2.5µm Sn pre-plated				
D70	Superseded by S31				
<b>S6</b>	Superseded by S18				
Other platings on request (contact supplied separately)					
Т	Tin 3µm (-0/+2) over 1.3µm Nickel mini				
D28	28 0.75μm mini Gold over 2μm Nickel mini				

# **Packaging**

Due to the wide variety of applications, contact packaging is offered for small series (bulk package) and high volume production (reeled contacts):

### Size contacts #16 (Ø1.6mm)



• 25 pieces loose package (Stamped & Formed contacts)



• 50 pieces bulk package (Machined contacts)



• 1,000 pieces bulk package (Machined contacts)



• 3,000 pieces reeled (Stamped & Formed contacts)



• 2,000 pieces reeled (Machined contacts) Size #16 only

# **Crimp Contacts**

### **Standard Version**





Contact	Туре	Wire size		Part number		Max	Available
size		AWG	mm²	Male	Female	insulator Ø	plating see page 30
	Machined	30-28	0.05-0.08	RM28M1-	RC28M1-	1.1	K, J
	Machined	26-24	0.13-0.2	RM24M9-	RC24M9-	1.6	K, J
	Stamped & Formed	26-24	0.13-0.25	SM24M1- <sup>(1)</sup> SM24ML1- <sup>(2)</sup>	SC24M1- <sup>(1)</sup> SC24ML1- <sup>(2)</sup>	0.89-1.58	S31, S18, TK6
	Machined	22-20	0.32-0.52	RM20M13-	RC20M13-	1.8	K, J
				RM20M12-	RC20M12-	2.2	
#16 Ø1.6	Stamped & Formed	22-20	0.35-0.5	SM20M1-(1) SM20ML1-(2)	SC20M1- <sup>(1)</sup> SC20ML1- <sup>(2)</sup>	1.17-2.08	S31, S18, TK6
mm	Machined	18-16	0.92-1.5	RM16M23-	RC16M23-	3.2	K, J
	Stamped & Formed	18-16	0.8-1.5	SM16M1-(1) SM16ML1-(2)	SC16M1- <sup>(1)</sup> SC16ML1- <sup>(2)</sup>	No insulation grip	S31, S18, TK6
	Stamped & Formed	18-16	0.8-1.5	SM16M11- <sup>(1)</sup> SM16ML11- <sup>(2)</sup>	SC16M11- <sup>(1)</sup> SC16ML11- <sup>(2)</sup>	2.08-3	S31, S18, TK6
	Machined	16-14	1.5-2.5	RM14M30-	RC14M30-	3.2	K, J
	Stamped & Formed	14	2.0-2.5	SM14M1-(1) SM14ML1-(2)	SC14M1- <sup>(1)</sup> SC14ML1- <sup>(2)</sup>	No insulation grip	S31, S18, TK6

(1) contact reeled (2) loose contact Exemple: RM20M13K - Size #16, Machined, AWG20 wire.

Note: all dimensions are in mm

# **Tooling**

# **Crimp Tool Table**

### Standard contacts

Contact size	Part number	Head*	Handles*	Extraction tools
	RM/RC 28M1*			RX2025GE1  Long endurance tool RX2031J
	RM/RC 24M9*	C1CDCM2Q		
	RM/RC 20M13*	S16RCM20		
	RM/RC 20M12*			
114.4	RM/RC 16M23*	S16RCM16		
#16 Ø1.6 mm	RM/RC 14M30*	S16RCM14	SHANDLES	
Ø1.0 IIIII	SM/SC 24ML1*(1)	S16SCM20		
	SM/SC 20ML1*(1)	3163CM20		
	SM/SC 16ML1*(1)	\$1656ML1		
	SM/SC 14ML1*(1)	S16SCML1		
	SM/SC 16ML11*(1)	S16SCML11		

(1) loose contact \* endurance of SHANDLES & Head tools = 50,000 cycles

# **SMS Series**

# Similar product range

ı	UTS Series	34
	UTO Series	34
	VGE1 & FER1 Series	3!
	838 Series	35
	MSG 3U Series	36
ļ	MSM & MSO Series	36
4	MB Series	37

### **UTS Series**

### Plastic waterproof solution with bayonet coupling system.

#### Fire smoke:

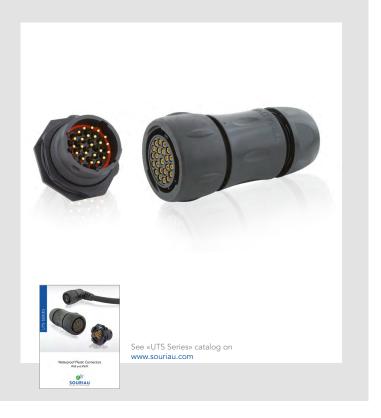
- . HL2/R22 HL2/R23 according to EN 45545-2.
- . UL94 V-0.

#### Indoor and outdoor use:

- . Waterproof: IP68/69K Dynamic Mated & Unmated.
- . UV resistant: F1 rated per UL 746C. No mechanical detrioration after 5 years of exposure in natural environment.

#### High speed data transmision:

- . Signal (Trim Trio contacts).
- . LC and MPO contacts.



### **UTO Series**

### Metal waterproof solution with bayonet coupling system.

#### Fire smoke:

- . HL2/R22 HL2/R23 according to EN 45545-2.
- . UL94 V-0.

#### Indoor and outdoor use:

- . High vibration Cat. 2 (Cat 3 for size E) according EN 61373. . Waterproof: IP68/69K Dynamic Mated & Unmated.
- . EMI shielded: 65 dB at 100 Mhz.
- . 500 mating cycles.

#### Cost saving:

- . Trim trio contacts: Machined or stamp contacts for a secure solution with optimized costs.
- . Mixed Power & Signal contacts layouts.



### VGE1 & FER1 Series

A reverse bayonet coupling system adpated for high vibration applications.

#### Fire smoke:

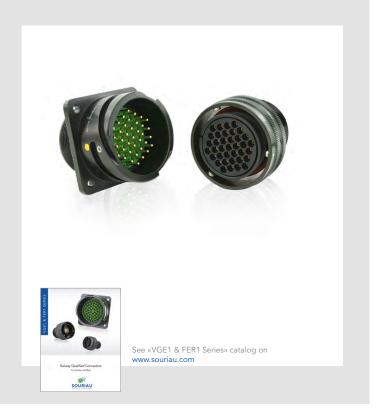
- . HL3/R22 HL3/R23 according to EN 45545-2.
- . NFPA 130 compliant.
- . JRMA Class 3.

### Ruggedized solution:

- . High vibration Cat 2 according EN 61373.
- . 500h salt spray.
- . IP67.
- . -40°C to 100°C.
- . Compact solution with the size 14 (32 mm diameter up to 10 contacts).

#### High speed data transmission:

- . Signal up to 60 contacts (Trim Trio contacts).
- . Quadrax.
- . Fiber optic.



# 838 Series

# Intercoach solution with screw coupling system.

#### Fire smoke:

. HL2/R22 - HL3/R23 according to EN 45545-2.

#### Ruggedized solution:

- . High vibration Cat. 2 (Cat 3 for size E) according EN 61373.
- . IP 67.
- . -40°C to 100°C.
- . Current up to 180 A.

#### High speed data transmission:

- . Signal up to 61 contacts.
- . Quadrax.
- . Fiber optic.



### **MSG 3U Series**

# Easy & Secure Connectors for rack systems. Front I/O solutions.

#### Fire smoke:

- . HL3/R22 HL3/R23 according to EN 45545-2.
- . NFPA 130 compliant.

#### Easy and secure solution:

- . Quick lever with safe locking system.
- . 360° metal housing for an improved shielding.
- . High density solution with 4 layouts: 29 pos / 41 pos / 51 pos / 5 quadrax.

#### Cost saving solution:

- . Trim trio contacts : machined or stamp contacts for a secure solution with optimized costs.
- . Full plastic solution.
- . Integrated strain relief.



# MSM & MSO Series

### **High Performance Boardmount Connector.**

### **High Performances:**

- . From 9 to 75 positions.
- . -55°C to +125°C.
- . Up to 500 mating cycles.
- . UL 94V0.
- . Trim Trio contacts.



# **MB Series**

### **High Density Rectangular connector.**

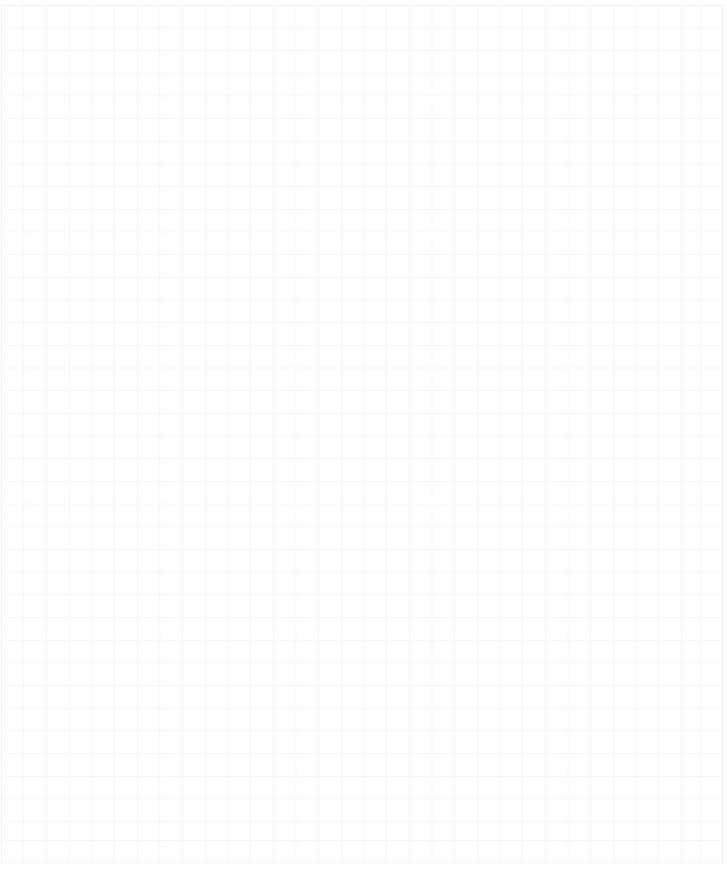
### Easy and secure solution:

- . Quick lever with safe locking system.
  . 360° metal housing for an improved shielding.
  . High density solution up to 52 contacts.
  . -55°C to +125°C.

- . Trim Trio contacts.



# Notes



# Reliable People, Reliable Solutions



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