

Fire & Smoke Resistant Connector

The plastic rectangular solution offering an excellent fire and smoke resistance for Railway indoor applications.

- Compliant to railway standards** ■ Tested according to EN 50 467
- Compact design & up to 36 contacts** ■ Ideal for tight space integration & high density contact applications
- Excellent durability** ■ 500 mating / unmating
- Standardization oriented** ■ Compatible with standard AWG16 contacts
- Compliant to fire & smoke requirements** ■ HL3/R22 - HL3/R23 following EN 45 545

Technical features (Tested according to EN 50 467)

Mechanical

- **Durability:** 500 mating/unmating
- **Vibrations & shocks:** EN 61 373 Cat.2
- **Keying system:** Positive polarization keys prevent mismating

Electrical

- **Current rating per contact:** 13 Amps
- **Operating voltage:** 250 V (according to EN 50-124)
- **Clearance distances (unmated):** > 2.58 mm
- **Withstanding voltage:** 2550 Vac
- **Insulation resistance:** ≥ 5000 MΩ
- **Contacts resistance:** ≤ 2.5 mΩ

Material

- **Plug & receptacle:** Polyamid

Environmental

- **Fire resistance, toxicity & smoke opacity:**
 - White version: I3F2 - NFF16101/16102
 - HL3/R23 & HL3/R22 - EN 45545
 - NFPA 130 Compliant
 - PCB receptacle (black): PCB version: I2F3 - NFF16101/16102
 - HL2/R22 & HL3/R22 - EN 45545
- **RoHS:** compliant
- **Operating temperature:** -40°C to +105°C
- **Resistance to fluids:** Gas oil, mineral oil, acid bath, basic bath, following NFF 61 030, oxalic acid
- **Sealing (mated conditions):** IP40 (mated conditions)

Ordering information

Connector family	SMS SMS	4 36	PDH3 RD3
Number of contacts: 2, 3, 4, 6, 9, 12, 15, 18, 24, 36			

- PDH3 Flame Retardant plug with integrated strain relief hood
- RDH3 Flame Retardant receptacle with integrated strain relief hood
- PD3 Flame Retardant plug without strain relief hood
- RD3 Flame Retardant receptacle without strain relief hood
- R3 Flame Retardant panel mount receptacle

Contacts to be ordered separately

- GE33 Straight boardmount with female PCB contacts
- GE43 Straight boardmount with male PCB contacts
- GE53 Right angle boardmount with female PCB contacts
- GE63 Right angle boardmount with male PCB contacts

PCB contacts included

Contact layouts



2 contacts AWG 16



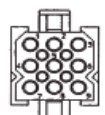
3 contacts AWG 16



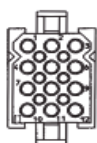
4 contacts AWG 16



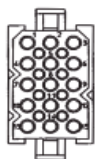
6 contacts AWG 16



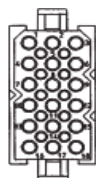
9 contacts AWG 16



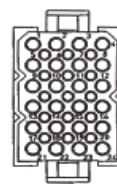
12 contacts AWG 16



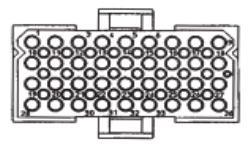
15 contacts AWG 16



18 contacts AWG 16



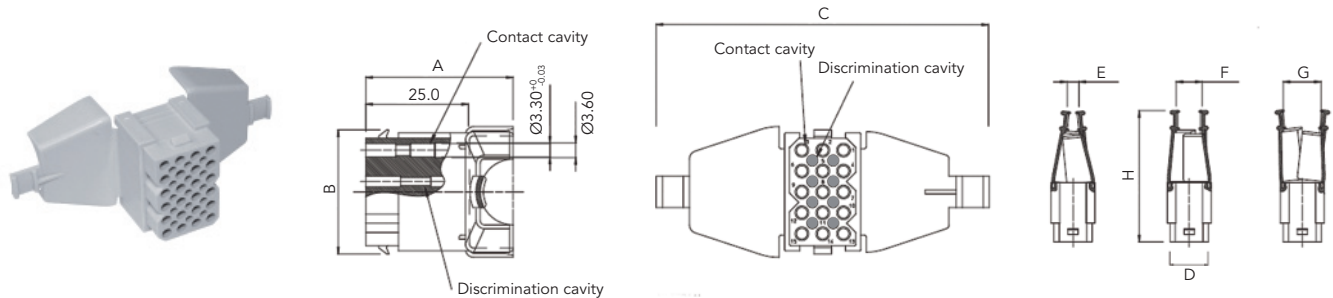
24 contacts AWG 16



36 contacts AWG 16

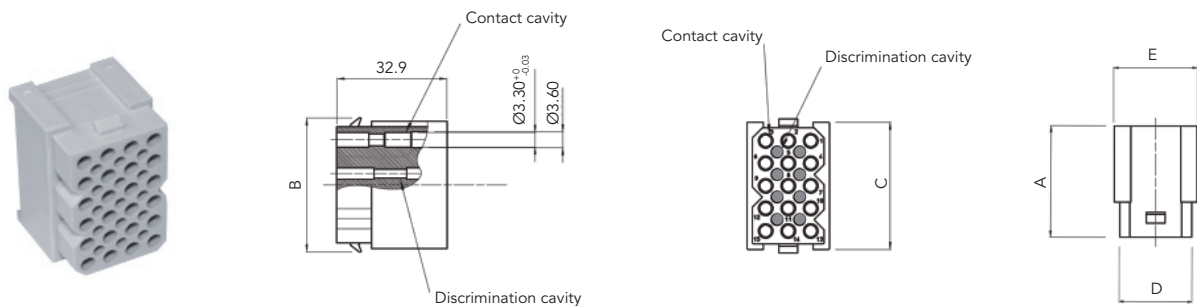
Receptacle

Receptacle Quick Mating with integrated strain relief hood (Delivered without contacts)



Part numbers	Number of contact cavities	Number of discrimination cavities	A	B	C	D	E	F	G	H	Cable range
SMS2RDH3	2	0	31.6	9.9	64.8	11.1	0.5	7.4	8.4	49.2	0.5 - 8.4
SMS3RDH3	3	0	35.1		69.0	16.2	0.8	4.1	7.3		0.8 - 7.3
SMS4RDH3	4	0	38.2		74.4	21.2	1.5	5.4	10.0		1.5 - 10.0
SMS6RDH3	6	2	34.6	15.0	72.6	16.2	1.7	6.8	9.2	50.9	1.7 - 9.2
SMS9RDH3	9	4	35.8	20.0	75.3		3.9	9.3	12.3	52.2	3.9 - 14.3
SMS12RDH3	12	6	38.1	25.1	72.0		4.0	10.0	15.0	52.7	4.0 - 15.0
SMS15RDH3	15	8	35.9	30.2	81.3		5.0	11.0	16.2	55.2	5.0 - 16.2
SMS18RDH3	18	10	36.1	35.3			5.8	12.5	20.3		5.8 - 20.3
SMS24RDH3	24	15	39.7		90.4	21.2	7.1	12.4	20.4	57.2	7.1 - 20.4
SMS36RDH3	36	24	54.6	25.1	128.0	46.6	8.8	13.0	24.5	63.3	8.8 - 24.5

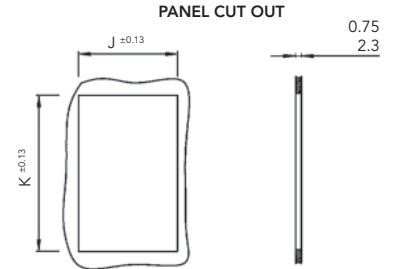
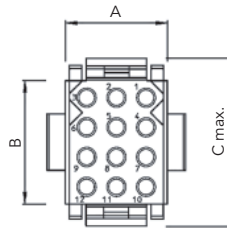
Receptacle Quick Mating without strain relief hood (Delivered without contacts)



Part numbers	Number of contact cavities	Number of discrimination cavities	A	B	C	D	E
SMS2RD3	2	0	25.0	9.9	8.4	11.1	14.1
SMS3RD3	3	0		9.9	8.4	16.2	18.6
SMS4RD3	4	0		9.9	8.4	21.2	23.7
SMS6RD3	6	2		15.0	13.4	16.2	18.6
SMS9RD3	9	4		20.0	18.5	16.2	18.6
SMS12RD3	12	6		25.1	23.6	16.2	18.6
SMS15RD3	15	8		30.2	28.7	16.2	18.6
SMS18RD3	18	10		35.3	33.8	16.2	18.6
SMS24RD3	24	15		35.3	33.8	21.2	23.7
SMS36RD3	36	24		25.1	23.6	46.6	49.1

Receptacle

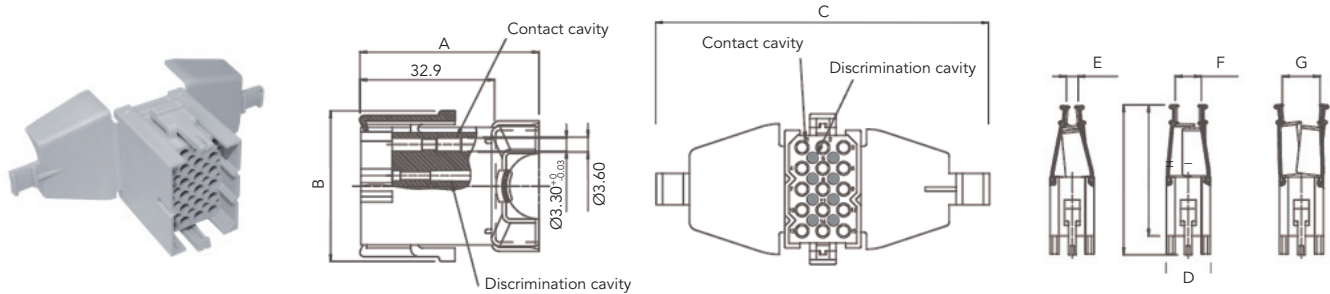
Panel Quick Mating mount receptacle (Delivered without contacts)



Part numbers	Number of contact cavities	Number of discrimination cavities	A	B	C max.	J ^{±0.13}	K ^{±0.13}
SMS2R3	2	0	11.0	5.8	15.2	11.4	11.6
SMS3R3	3	0	16.2			16.5	
SMS4R3	4	0	21.2			21.7	
SMS6R3	6	0	16.2	10.9	20.3	16.5	16.7
SMS9R3	9	0		16.0	25.4		21.6
SMS12R3	12	0		21.1	30.5	16.7	26.7
SMS15R3	15	0		26.2	35.6		31.8
SMS18R3	18	0		21.2	31.2	40.6	21.7
SMS24R3	24	0	26.7				
SMS36R3	36	0	46.6	21.1	30.5	47.1	26.7

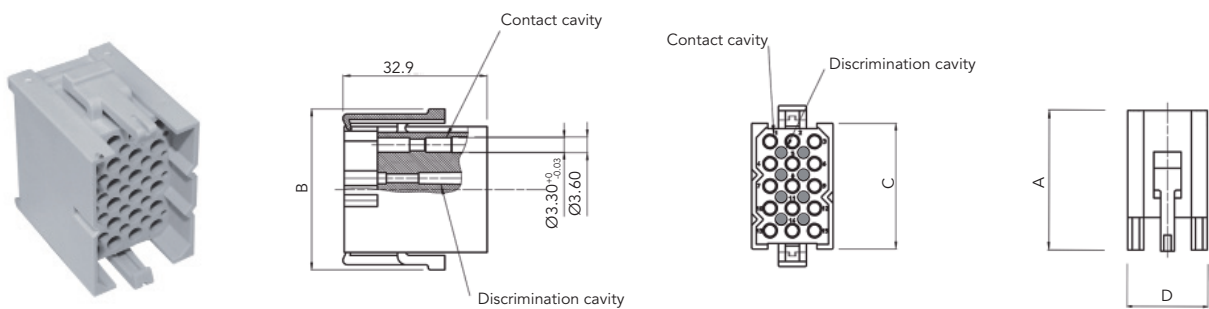
Plug

Plug Quick Mating with integrated strain relief hood (Delivered without contacts)



Part numbers	Number of contact cavities	Number of discrimination cavities	A	B	C	D	E	F	G	H	I	Cable range
SMS2PDH3	2	0	39.5	16.4	64.8	14.1	0.5	7.4	8.4	57.1	49.2	0.5 - 8.4
SMS3PDH3	3	0	43.0		69.0	18.6	0.8	4.1	7.3		0.8 - 7.3	
SMS4PDH3	4	0	46.1		74.4	23.7	1.5	5.4	10.0		1.5 - 10.0	
SMS6PDH3	6	2	42.5	21.5	72.6	18.6	1.7	6.8	9.2	58.8	50.9	1.7 - 9.2
SMS9PDH3	9	4	43.7	26.7	75.3		3.9	9.3	12.3	60.1	52.2	3.9 - 14.3
SMS12PDH3	12	6	46.0	31.7	72.0		4.0	10.0	15.0	60.6	52.7	4.0 - 15.0
SMS15PDH3	15	8	43.8	36.7	81.3		5.0	11.0	16.2	63.1	55.2	5.0 - 16.2
SMS18PDH3	18	10	44.0	41.8			5.8	12.5	20.3			5.8 - 20.3
SMS24PDH3	24	15	47.6	41.8	90.4		23.7	7.1	12.4	20.4	65.1	57.2
SMS36PDH3	36	24	62.5		31.7	128.0	49.1	8.8	13.0	24.5	71.2	63.3

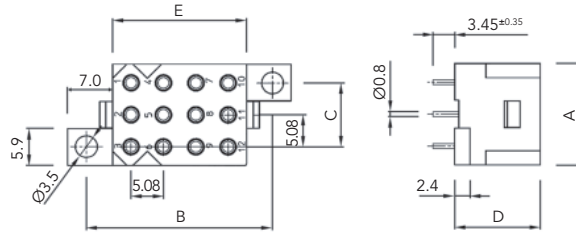
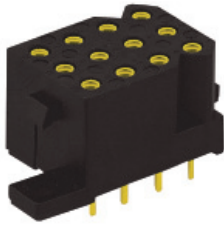
Plug Quick Mating without strain relief hood (Delivered without contacts)



Part numbers	Number of contact cavities	Number of discrimination cavities	A	B	C	D
SMS2PD3	2	0	32.7	16.4	8.4	14.1
SMS3PD3	3	0		16.4	8.4	18.6
SMS4PD3	4	0		16.4	8.4	23.7
SMS6PD3	6	2		21.5	13.4	18.6
SMS9PD3	9	4		26.7	18.5	18.6
SMS12PD3	12	6		31.7	23.6	18.6
SMS15PD3	15	8		36.7	28.7	18.6
SMS18PD3	18	10		41.8	33.8	18.6
SMS24PD3	24	15		41.8	33.8	23.7
SMS36PD3	36	24		31.7	23.6	49.1

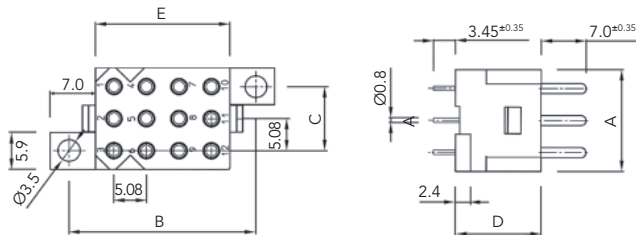
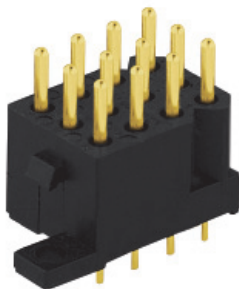
PCB receptacle

Straight boardmount receptacle delivered with female PCB contacts (SMS GE33)



Contacts (included)	Part numbers	Number of contact cavities	Number of discrimination cavities	A	B	C	D	E
Female contacts	SMS3GE33	3	0	16.2	14	10.2	13.4	5.9
	SMS6GE33	6	0		19.2			10.9
	SMS9GE33	9	4		24.2			16
	SMS12GE33	12	0		29.2			21.1
	SMS15GE33	15	8		34.3			26.1
	SMS18GE33	18	10		39.4			31.2
	SMS24GE33	24	0	21.2	39.4	15.2	31.2	
	SMS36GE33	36	0	46.5	15.2	54.6	20.9	

Straight boardmount receptacle delivered with male PCB contacts (SMS GE43)

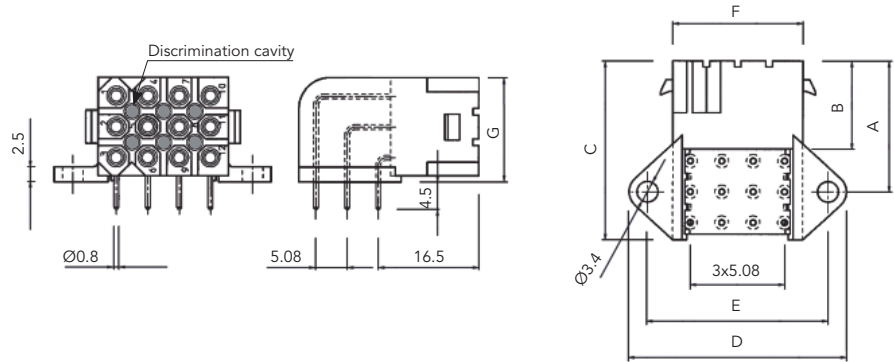
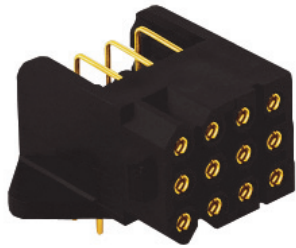


Contacts (included)	Part numbers	Number of contact cavities	Number of discrimination cavities	A	B	C	D	E
Male contacts	SMS3GE43	3	0	16.2	14	10.2	13.4	5.9
	SMS6GE43	6	2		19.2			10.9
	SMS9GE43	9	4		24.2			16
	SMS12GE43	12	0		29.2			21.1
	SMS15GE43	15	8		34.3			26.1
	SMS18GE43	18	10		39.4			31.2
	SMS24GE43	24	0	21.2	39.4	15.2	31.2	
	SMS36GE43	36	0	46.5	15.2	54.6	20.9	

Note : all dimensions are in mm

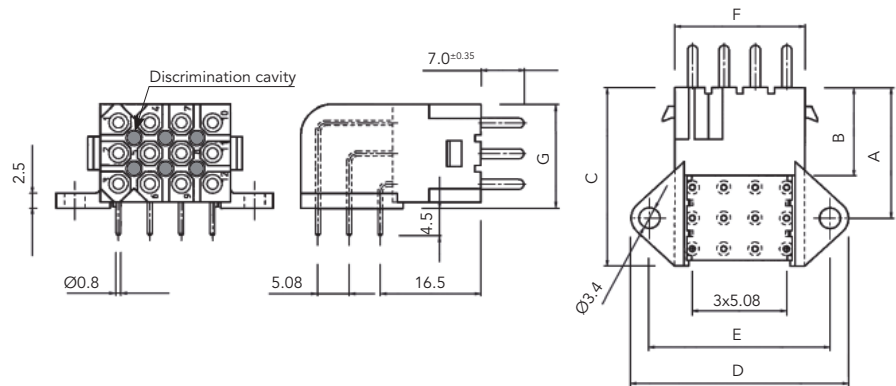
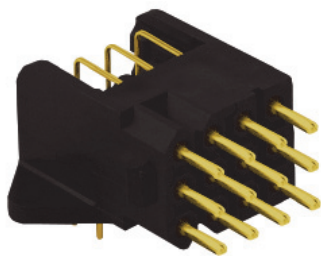
PCB receptacle

Right angle boardmount receptacle delivered with female PCB contacts (SMS GE53)



Contacts (included)	Part numbers	Number of contact cavities	Number of discrimination cavities	A	B	C	D	E	F	G
Female contacts	SMS3GE53	3	0	16.5	14.4	20.5	30.2	24.2	16.2	6.8
	SMS6GE53	6	0	19		24.5				11.9
	SMS12GE53	12	6	21.6		29.5	35.2	29.2	21.2	17.2
	SMS18GE53	18	10			45.4	39.4	31.2		

Right angle boardmount receptacle delivered with male PCB contacts (SMS GE63)



Contacts (included)	Part numbers	Number of contact cavities	Number of discrimination cavities	A	B	C	D	E	F	G
Male contacts	SMS3GE63	3	0	16.5	14.4	20.5	30.2	24.2	16.2	6.8
	SMS6GE63	6	0	19		24.5				11.9
	SMS12GE63	12	6	21.6		29.5	35.2	29.2	21.2	17.2
	SMS18GE63	18	10			45.4	39.4	31.2		

Note : all dimensions are in mm

Machined contacts #16

Part numbers						Wire size		Max. wire Ø	Max. insul. Ø	Wire strip length
Standard contacts		Longer contacts		Shorter contacts		AWG	mm ²			
Male	Female	Male	Female	Male	Female					
RM20M12K	RC20M12K	RM20M12GE1K	RC20M12GE1K	RM20M12GE3K	RC20M12GE7K	22-20	0.32-0.52	1.18	2.2	4.8
RM16M23K	RC16M23K	RM16M23GE1K	RC16M23GE1K	RM16M23GE3K	RC16M23GE7K	20-16	0.50-1.50	1.80	3.2	7.1
RM14M50K	RC14M50K	-	-	-	-	16-14	1.5-2.5	2.05		
RM14M30K	RC14M30K	RM14M30GE1K	-	-	RC14M30GE7K	16-14	1.5-2.5	2.28		

Note : all dimensions are in mm

Tooling for machined contacts #16



Manual crimp pliers	Locator	Selector set-up - Wire section						Extraction tool
MH860 (M22520/7-01)	MH86164G or TP1142	6 0.5 mm ²	7 0.75 mm ²	7 1 mm ²	8 1.5 mm ²	-	RX2025GE1	
FT8	-	4 0.5 mm ²	4 0.75 mm ²	5 1 mm ²	5 1.5 mm ²	-		
AF8 (M22520/1-01)	TP1142	-	-	-	-	8 2.5 mm ²		

Following standard: EN 50306-2

Following standard: EN 50264-3-1

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