

# Communication panel



## D-SUB connector



8.1 D-Sub connector



8.2 RJ45 & USB connector



8.3 Front debug panel

# D-SUB 9/15 Pin connector

Shielded  
Crimp / Solder pins  
Size : Size 1G

Pin Male  
180°



Connector Female  
180°



<b>1</b>	Type	Solder	900009	900315	901009	901315
	Ordering code		FMK1G-109-MS	FMK1G-315-MS	FMK1G-109-FS	FMK1G-315-FS
		Crimp	900109		902009	
	Ordering code		FMK1G-109-MC		FMK1G-109-FC	
	Suppression		9-pole	15-pole	9-pole	15-pole
	Circuit diagram		Male	Male	Female	Female
	Wire diameter		6···8.7 mm			

## 2 Technical data

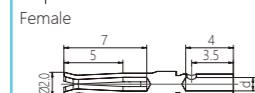
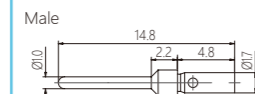
Supply voltage	30V AC/DC
Current per contact (40°C)	2A
Temperature range	- 25...+ 85 °C
Wiring method	Crimp terminal (See the table below for cold pressing needles)

### Crimp contacts

#### Technical data

Material: Copper alloy silver /Gold-plated  
Contact resistance: ≤4 mΩ  
Terminal: Crimp terminal

#### Machined contacts



Wire	AWG	Machined Contacts (100 pieces / pu)	
		Type	Part No.
0.09-0.25mm <sup>2</sup>	26-22	DAM-13	09670005576
0.25-0.56mm <sup>2</sup>	22-20	DAM-33	09670008576
0.09-0.25mm <sup>2</sup>	26-22	DAF-13	09670005476
0.25-0.56mm <sup>2</sup>	22-20	DAF-33	09670008476

Notes

# D-SUB 9/15 Pin connector

Shielded  
Crimp / Solder pins  
Size : Size 1G

Pin Male  
45°



Connector Female  
45°



<b>1</b>	Type	Solder	910009	910315	911009	911315
	Ordering code		FMK1-109-MS	FMK1-315-MS	FMK1-109-FS	FMK1-315-FS
		Crimp	910109		912009	
	Ordering code		FMK1-109-MC		FMK1-109-FC	
	Suppression		9-pole	15-pole	9-pole	15-pole
	Circuit diagram		Male	Male	Female	Female
	Wire diameter		6···8.7 mm			

## 2 Technical data

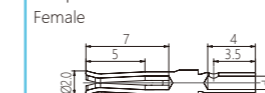
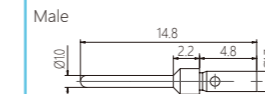
Supply voltage	30V AC/DC
Current per contact (40°C)	2A
Temperature range	- 25...+ 85 °C
Wiring method	Crimp terminal (See the table below for cold pressing needles)

### Crimp contacts

#### Technical data

Material: Copper alloy silver /Gold-plated  
Contact resistance: ≤4 mΩ  
Terminal: Crimp terminal

#### Machined contacts



Wire	AWG	Machined Contacts (100 pieces / pu)	
		Type	Part No.
0.09-0.25mm <sup>2</sup>	26-22	DAM-13	09670005576
0.25-0.56mm <sup>2</sup>	22-20	DAM-33	09670008576
0.09-0.25mm <sup>2</sup>	26-22	DAF-13	09670005476
0.25-0.56mm <sup>2</sup>	22-20	DAF-33	09670008476

Notes

# D-SUB 15 Pin connector

Shielded  
Crimp / Solder pins  
Size : Size 2G

Pin Male  
180°



Connector Female  
180°



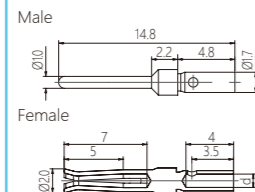
<b>1</b> Type	Solder	900015	901015
Ordering code		FMK2G-215-MS	FMK2G-215-FS
	Crimp	900115	902015
Ordering code		FMK2G-215-MC	FMK2G-215-FC
Suppression		15-pole	15-pole
Circuit diagram		Male	Female
Wire diameter		8...11mm	

<b>2</b> Technical data	
Supply voltage	30V AC/DC
Current per contact(40°C)	2A
Temperature range	- 25...+ 85 °C
Wiring method	Crimp terminal (See the table below for cold pressing needles)

## Crimp contacts

**Technical data**  
Material: Copper alloy silver /Gold-plated  
Contact resistance: ≤4 mΩ  
Terminal: Crimp terminal

Machined contacts



Wire	AWG	Machined Contacts (100 pieces / pu)	
		Type	Part No.
0.09-0.25mm <sup>2</sup>	26-22	DAM-13	09670005576
0.25-0.56mm <sup>2</sup>	22-20	DAM-33	09670008576
0.09-0.25mm <sup>2</sup>	26-22	DAF-13	09670005476
0.25-0.56mm <sup>2</sup>	22-20	DAF-33	09670008476

Notes

# D-SUB 15 Pin connector

Shielded  
Crimp / Solder pins  
Size : Size 2G

Pin Male  
45°



Connector Female  
45°



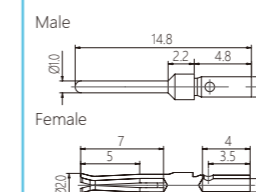
<b>1</b> Type	Solder	910015	911015
Ordering code		FMK2-215-MS	FMK2-215-FS
	Crimp	910115	912015
Ordering code		FMK2-215-MC	FMK2-215-FC
Suppression		15-pole	15-pole
Circuit diagram		Male	Female
Wire diameter		8...11mm	

<b>2</b> Technical data	
Supply voltage	30V AC/DC
Current per contact(40°C)	2A
Temperature range	- 25...+ 85 °C
Wiring method	Crimp terminal (See the table below for cold pressing needles)

## Crimp contacts

**Technical data**  
Material: Copper alloy silver /Gold-plated  
Contact resistance: ≤4 mΩ  
Terminal: Crimp terminal

Machined contacts



Wire	AWG	Machined Contacts (100 pieces / pu)	
		Type	Part No.
0.09-0.25mm <sup>2</sup>	26-22	DAM-13	09670005576
0.25-0.56mm <sup>2</sup>	22-20	DAM-33	09670008576
0.09-0.25mm <sup>2</sup>	26-22	DAF-13	09670005476
0.25-0.56mm <sup>2</sup>	22-20	DAF-33	09670008476

Notes

# D-SUB 25Pin connector

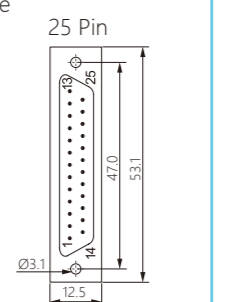
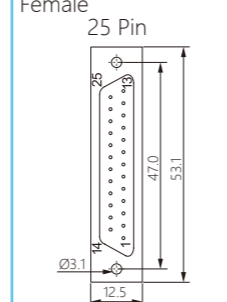
Shielded  
Crimp / Solder pins  
Size : Size 3G

Pin Male  
180°



Connector Female  
180°



<b>1</b>	Type	Solder	900025	901025
	Ordering code		FMK3G-225-MS	FMK3G-225-FS
		Crimp	900125	902025
	Ordering code		FMK3G-225-MC	FMK3G-225-FC
	Suppression		25-pole	25-pole
	Circuit diagram		Male 	Female 
	Wire diameter		8...11mm	

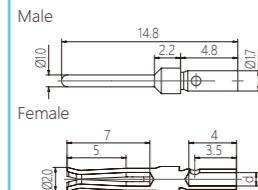
<b>2</b>	<b>Technical data</b>			
	Supply voltage	30V AC/DC		
	Current per contact (40°C)	2A		
	Temperature range	- 25...+ 85 °C		
	Wiring method	Crimp terminal (See the table below for cold pressing needles)		

## Crimp contacts

### Technical data

Material: Copper alloy silver /Gold-plated  
Contact resistance: ≤4 mΩ  
Terminal: Crimp terminal

### Machined contacts



Wire	AWG	Machined Contacts (100 pieces / pu)	
		Type	Part No.
0.09-0.25mm <sup>2</sup>	26-22	DAM-13	09670005576
0.25-0.56mm <sup>2</sup>	22-20	DAM-33	09670008576
0.09-0.25mm <sup>2</sup>	26-22	DAF-13	09670005476
0.25-0.56mm <sup>2</sup>	22-20	DAF-33	09670008476

Notes

# D-SUB 25Pin connector

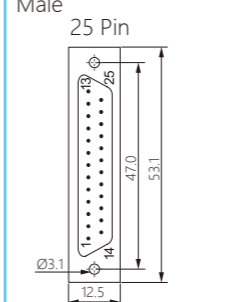
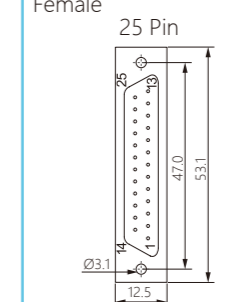
Shielded  
Crimp / Solder pins  
Size : Size 3G

Pin Male  
45°



Connector Female  
45°



<b>1</b>	Type	Solder	910025	911025
	Ordering code		FMK3-225-MS	FMK3-225-FS
		Crimp	910125	912025
	Ordering code		FMK3-225-MC	FMK3-225-FC
	Suppression		25-pole	25-pole
	Circuit diagram		Male 	Female 
	Wire diameter		8...11mm	

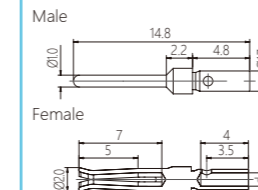
<b>2</b>	<b>Technical data</b>			
	Supply voltage	30V AC/DC		
	Current per contact (40°C)	2A		
	Temperature range	- 25...+ 85 °C		
	Wiring method	Crimp terminal (See the table below for cold pressing needles)		

## Crimp contacts

### Technical data

Material: Copper alloy silver /Gold-plated  
Contact resistance: ≤4 mΩ  
Terminal: Crimp terminal

### Machined contacts



Wire	AWG	Machined Contacts (100 pieces / pu)	
		Type	Part No.
0.09-0.25mm <sup>2</sup>	26-22	DAM-13	09670005576
0.25-0.56mm <sup>2</sup>	22-20	DAM-33	09670008576
0.09-0.25mm <sup>2</sup>	26-22	DAF-13	09670005476
0.25-0.56mm <sup>2</sup>	22-20	DAF-33	09670008476

Notes

# D-SUB 37 Pin connector

Shielded  
Crimp / Solder pins  
Size : Size 4G

Pin Male  
180°



Connector Female  
180°



<b>1</b> Type	Solder	900037	901037	
Ordering code		FMK4G-237-MS	FMK4G-237-FS	
	Crimp	900137	902037	
Ordering code		FMK4G-237-MC	FMK4G-237-FC	
Suppression		37-pole	37-pole	
Circuit diagram	Male		Female	

Wire diameter 8...11mm

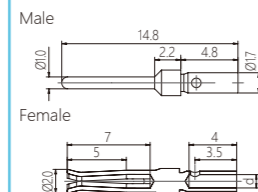
## 2 Technical data

Supply voltage	30V AC/DC
Current per contact (40°C)	2A
Temperature range	- 25...+ 85 °C
Wiring method	Crimp terminal (See the table below for cold pressing needles)

### Crimp contacts

**Technical data**  
Material: Copper alloy silver /Gold-plated  
Contact resistance: ≤4 mΩ  
Terminal: Crimp terminal

Machined contacts



Wire	AWG	Machined Contacts (100 pieces / pu)	
		Type	Part No.
0.09-0.25mm <sup>2</sup>	26-22	DAM-13	09670005576
0.25-0.56mm <sup>2</sup>	22-20	DAM-33	09670008576
0.09-0.25mm <sup>2</sup>	26-22	DAF-13	09670005476
0.25-0.56mm <sup>2</sup>	22-20	DAF-33	09670008476

Notes

# D-SUB 37 Pin connector

Shielded  
Crimp / Solder pins  
Size : Size 4G

Pin Male  
45°



Connector Female  
45°



<b>1</b> Type	Solder	910037	911037	
Ordering code		FMK4-237-MS	FMK4-237-FS	
	Crimp	910137	912037	
Ordering code		FMK4-237-MC	FMK4-237-FC	
Suppression		37-pole	37-pole	
Circuit diagram	Male		Female	

Wire diameter 8...11mm

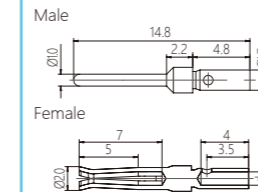
## 2 Technical data

Supply voltage	30V AC/DC
Current per contact (40°C)	2A
Temperature range	- 25...+ 85 °C
Wiring method	Crimp terminal (See the table below for cold pressing needles)

### Crimp contacts

**Technical data**  
Material: Copper alloy silver /Gold-plated  
Contact resistance: ≤4 mΩ  
Terminal: Crimp terminal

Machined contacts



Wire	AWG	Machined Contacts (100 pieces / pu)	
		Type	Part No.
0.09-0.25mm <sup>2</sup>	26-22	DAM-13	09670005576
0.25-0.56mm <sup>2</sup>	22-20	DAM-33	09670008576
0.09-0.25mm <sup>2</sup>	26-22	DAF-13	09670005476
0.25-0.56mm <sup>2</sup>	22-20	DAF-33	09670008476

Notes

# D-SUB 50 Pin connector

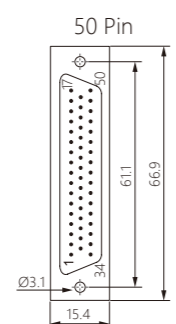
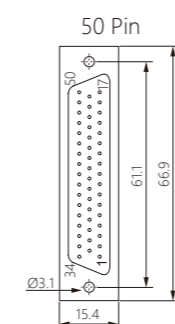
Shielded  
Crimp / solder pins  
Size : Size 5G

Pin Male  
180°



Connector Female  
180°



<b>1</b> Type	Solder	900050	901050
Ordering code		FMK5G-350-MS	FMK5G-350-FS
	<b>Crimp</b>	900150	902050
Ordering code		FMK5G-350-MC	FMK5G-350-FC
Suppression		50-pole	50-pole
Circuit diagram		Male 	Female 

Wire diameter 8...11mm

<b>2</b> Technical data	
Supply voltage	30V AC/DC
Current per contact (40°C)	2A
Temperature range	- 25...+ 85 °C
Wiring method	Crimp terminal (See the table below for cold pressing needles)

## Crimp contacts

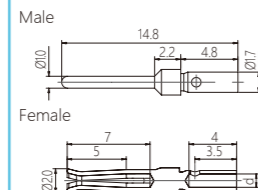
### Technical data

Material: Copper alloy silver /Gold-plated

Contact resistance: ≤4 mΩ

Terminal: Crimp terminal

### Machined contacts



Wire	AWG	Machined Contacts (100 pieces / pu)	
		Type	Part No.
0.09-0.25mm <sup>2</sup>	26-22	DAM-13	09670005576
0.25-0.56mm <sup>2</sup>	22-20	DAM-33	09670008576
0.09-0.25mm <sup>2</sup>	26-22	DAF-13	09670005476
0.25-0.56mm <sup>2</sup>	22-20	DAF-33	09670008476

Notes

# D-SUB 50 Pin connector

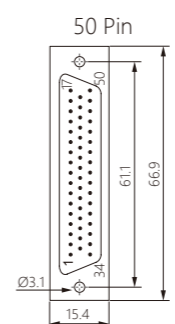
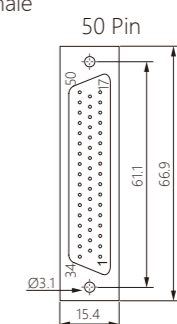
Shielded  
Crimp / Solder pins  
Size : Size 5G

Pin Male  
45°



Connector Female  
45°



<b>1</b> Type	Solder	910050	911050
Ordering code		FMK5-350-MS	FMK5-350-FS
	<b>Crimp</b>	910150	912050
Ordering code		FMK5-350-MC	FMK5-350-FC
Suppression		50-pole	50-pole
Circuit diagram		Male 	Female 

Wire diameter 8...11mm

<b>2</b> Technical data	
Supply voltage	30V AC/DC
Current per contact (40°C)	2A
Temperature range	- 25...+ 85 °C
Wiring method	Crimp terminal (See the table below for cold pressing needles)

## Crimp contacts

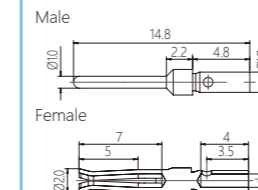
### Technical data

Material: Copper alloy silver /Gold-plated

Contact resistance: ≤4 mΩ

Terminal: Crimp terminal

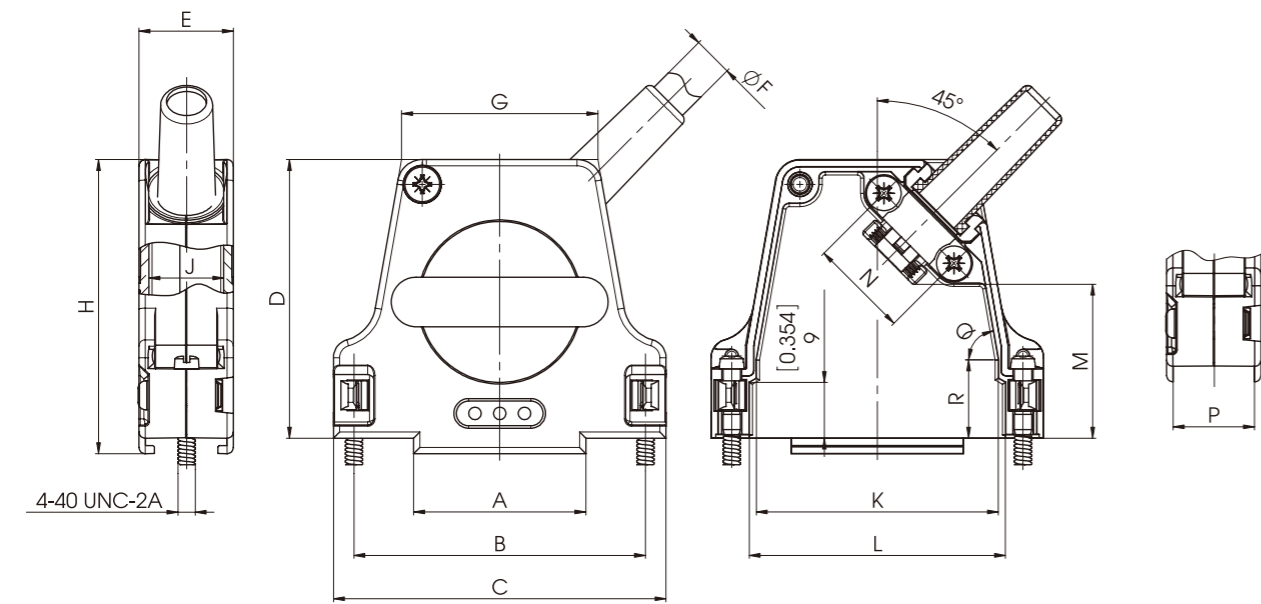
### Machined contacts



Wire	AWG	Machined Contacts (100 pieces / pu)	
		Type	Part No.
0.09-0.25mm <sup>2</sup>	26-22	DAM-13	09670005576
0.25-0.56mm <sup>2</sup>	22-20	DAM-33	09670008576
0.09-0.25mm <sup>2</sup>	26-22	DAF-13	09670005476
0.25-0.56mm <sup>2</sup>	22-20	DAF-33	09670008476

Notes

45° cable outlet



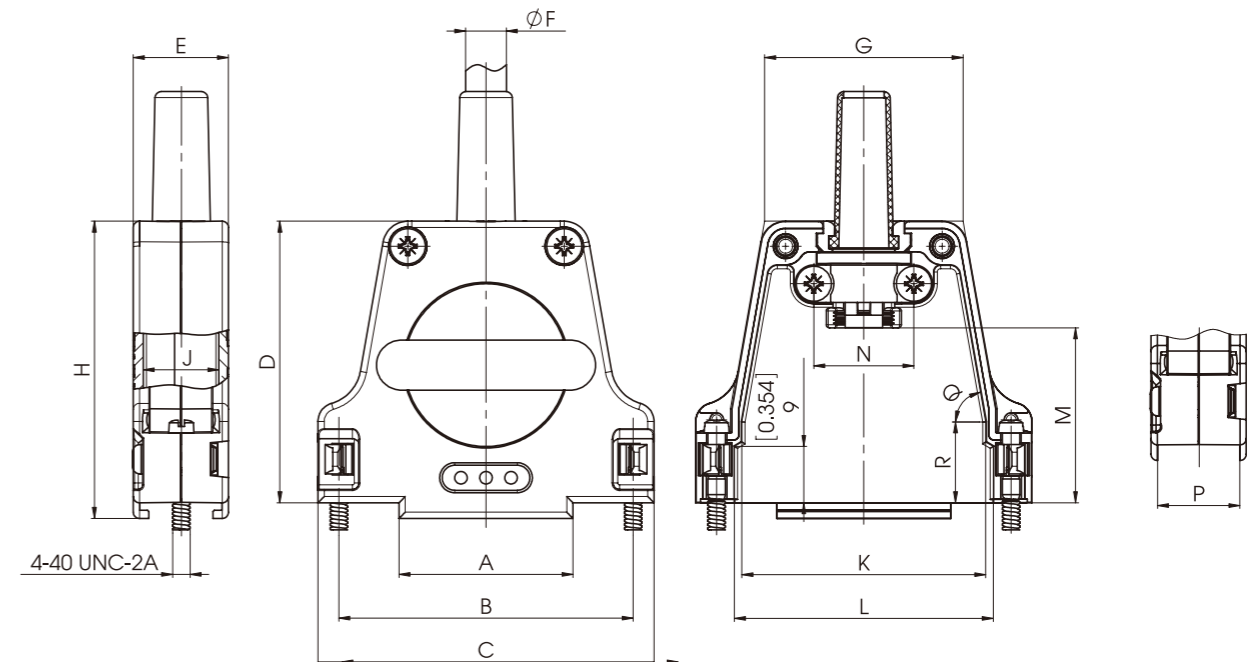
Shell size	Features	Shell Size/For	A	B	C	D	E	Ø F		G	H	J	K	L	M	N	P	Q	R	
								No rubber boot	With rubber boot											
SIZE1		1 / 9	14.9	25.0	31.6	39.5	15.2	3.0 - 9.5	6.5	20.8	42.0	12.1	17.0	19.4	23.0	12.0	13.1			
SIZE2-1		2 / 15	15.9	33.3	40.0	41.0	15.2	3.0 - 8.5	6.5	23.3	43.5	12.1	25.8	27.9	21.0	16.0	13.1	84 °		
SIZE2-2	Large cable outlet	2 / 15	15.9	33.3	40.0	41.0	15.2	8.5 - 12.5	9.0	23.3	43.5	12.1	25.8	27.9	21.0	16.0	13.1	84 °		
SIZE3-1		3 / 25	27.8	47.0	53.7	45.0	15.2	3.0 - 8.5	8.0	31.7	47.5	12.1	39.0	41.4	25.0	16.0	13.0	80 °	12.9	
SIZE3-2	Large cable outlet	3 / 25	27.8	47.0	53.7	45.0	15.2	8.5 - 12.5	9.0	31.7	47.5	12.1	39.0	41.4	25.0	16.0	13.0	80 °	12.9	
SIZE4-1		4 / 37	44.3	63.5	70.2	48.0	18.2	3.0 - 12.0	9.0	48.2	50.5	15.1	55.5	57.8	23.2	21.0	12.7	80 °	16.1	
SIZE4-2	Large cable outlet	4 / 37	44.3	63.5	70.2	48.0	18.2	12.0 - 15.0	11.5	48.2	50.5	15.1	55.5	57.8	23.2	21.0	12.7	80 °	16.1	
SIZE5-1		5 / 50	41.9	61.1	67.8	48.0	18.2	3.0 - 12.0	9.7	45.8	50.5	15.1	53.1	55.5	23.2	21.0	15.9	80 °	16.1	
SIZE5-2	Large cable outlet	5 / 50	41.9	61.1	67.8	48.0	18.2	12.0 - 15.0	11.5	45.8	50.5	15.1	53.1	55.5	23.2	21.0	15.9	80 °	16.1	

Technical data

Material and platings	Zinc die-cast, nickel plated
Temperature range	-35°C bis 100°C (-67°F to 212°F)
max. torque *	40 Ncm (0.295 ft.lb.)

\* Not for locking screws

180° cable outlet



Shell size	Features	Shell Size/For	A	B	C	D	E	Ø F		G	H	J	K	L	M	N	P	Q	R	
								No rubber boot	With rubber boot											
SIZE1G		1 / 9	14.9	25.0	31.6	39.5	15.2	3.0 - 9.5	6.5	20.8	42.0	12.1	17.0	19.4	23.5	12.0	13.1			
SIZE2G-1		2 / 15	15.9	33.3	40.0	41.0	15.2	3.0 - 8.5	6.5	23.3	43.5	12.1	25.8	27.9	19.0	16.0	13.1	84 °		
SIZE2G-2	Large cable outlet	2 / 15	15.9	33.3	40.0	41.0	15.2	8.5 - 12.5	9.0	23.3	43.5	12.1	25.8	27.9	19.0	16.0	13.1	84 °		
SIZE3G-1		3 / 25	27.8	47.0	53.7	45.0	15.2	3.0 - 8.5	8.0	31.7	47.5	12.1	39.0	41.4	28.0	16.0	13.1	80 °	12.9	
SIZE3G-2	Large cable outlet	3 / 25	27.8	47.0	53.7	45.0	15.2	8.5 - 12.5	9.0	31.7	47.5	12.1	39.0	41.4	28.0	16.0	13.1	80 °	12.9	
SIZE4G-1		4 / 37	44.3	63.5	70.2	48.0	18.2	3.0 - 12.0	9.0	48.2	50.5	15.1	55.5	57.8	32.5	21.0	12.7	80 °	16.1	
SIZE4G-2	Large cable outlet	4 / 37	44.3	63.5	70.2	48.0	18.2	12.0 - 15.0	11.5	48.2	50.5	15.1	55.5	57.8	32.5	21.0	12.7	80 °	16.1	
SIZE5G-1		5 / 50	41.9	61.1	67.8	48.0	18.2	3.0 - 12.0	9.7	45.8	50.5	15.1	53.1	55.5	32.5	21.0	15.9	80 °	16.1	
SIZE5G-2	Large cable outlet	5 / 50	41.9	61.1	67.8	48.0	18.2	12.0 - 15.0	11.5	45.8	50.5	15.1	53.1	55.5	32.5	21.0	15.9	80 °	16.1	

Technical data

Material and platings	Zinc die-cast, nickel plated
Temperature range	-35°C bis 100°C (-67°F to 212°F)
max. torque *	40 Ncm (0.295 ft.lb.)

\* Not for locking screws

# D-SUB 25 Pin bus connector

Shielded

Pin Male  
45°

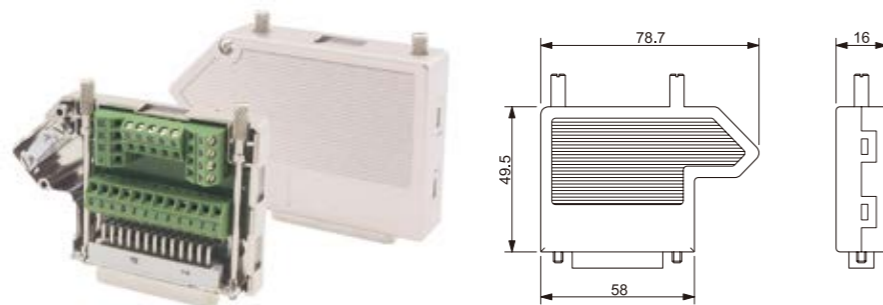
Connector Female  
45°

With screw terminals



1 Type	955251	955253	955255	955252	955254	955256
Ordering code	FMK3G-225-MP	FMK3G-225-MP-A	FMK3G-225-MP-B	FMK3G-225-FP	FMK3G-225-FP-A	FMK3G-225-FP-B
Suppression	25-pole			25-pole		
Screw specifications	M3	VC-40	M2.6	M3	VC-40	M2.6
Circuit diagram	Male			Female		
Wire diameter	4...10mm					

2 Technical data	
Supply voltage	50V AC/DC
Current per contact (40°C)	1A
Temperature range	- 20...+ 75 °C
Wiring method	With screw terminals



Part No.

Reference: 1.0.1

1 Type

Notes

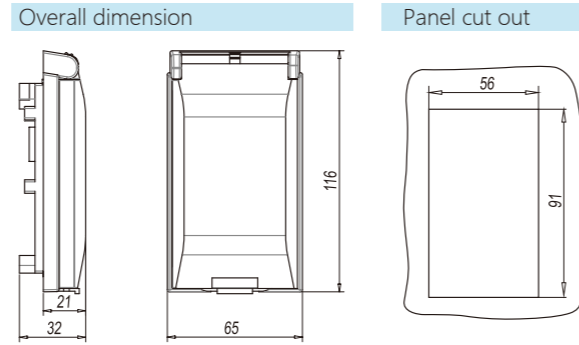
# RJ45 & USB connector

## RJ45 & USB connector CONNECTOR

Identification	Part No.	Dimensions (mm)
RJ45 panel base (clasp type) Panel feed through	9452151103	
RJ45 panel base (clasp type) Panel feed through	9452151108	
RJ45 4-pin male plug (hand-held type)	9451151100	
RJ45 8-pin male plug (hand-held type)	9451151108	
RJ45 straight-through dual network port socket RJ45 female socket straight dual ethernet ports	999091	
USB2.0 female seat USB2.0 female socket	999101	



# Front debug panel



**Other information**  
 Housing frame and cover: Plastic PC + ABS  
 Degree of protection : IP54  
 Ambient temperature : -5...+55°C  
 Storing temperature : -20...+60°C

## Selection of control chart



Part No.	9145209	9145215	9145225	9145200	9145000	9100000
Type	FAS-PURD-1	FAS-PURD-2	FAS-PURD-3	FAS-PRU	FAS-PR	FAS-P
Number of ports						
20A power socket	1	1	1	1	1	1
RJ45 network port	1	1	1	1	1	/
USB 2.0 / 3.0	1	1	1	1	/	/
D-SUB-9	1	/	/	/	/	/
D-SUB-15 (Three rows)	/	1	/	/	/	/
D-SUB-25	/	/	1	/	/	/

Note: The suffix of the order number is added "U" to indicate that the power socket in the communication panel is a 10A universal socket. Example: 9145209U, FAS-PURD-1U

The suffix of the order number is added "EU", indicating that the power socket in the communication panel is a 16A European standard socket. Example: 9145209EU, FAS-PURD-1EU

# Front debug panel

## Installation process



9045209	9045215	9045225	9045200	9045309	9045415	9045325
FAS-URD-1	FAS-URD-2	FAS-URD-3	FAS-RU	FAS-RUD-1	FAS-RUD-2	FAS-RUD-4
/	/	/	/	/	/	/
2	2	2	1	1	1	1
1	1	1	1	1	1	1
1	/	/	/	1	/	/
/	1	/	/	/	1	/
/	/	1	/	/	/	1