

EM52M/40M/30M Series

Plastic Connectors for High Current Applications



High-Current



Bayonet



Waterproof



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Features

1. High Quality Plastic Enables a Robust and Lightweight

High quality plastic enables a lightweight for high current connectors. Robust design resistant to rough handling.

2. Quick and Secure Push-on Bayonet Lock

The push-on bayonet locking mechanism enables complete locking in one quick mating action.

3. Multi-surface Contact Spring Design

High current is achieved by using the multi-surface contact spring design.

4. Standard Crimp Tool for Easy Crimp Connection

Contacts can be crimped by using a JIS standard crimp tool (JIS C 9711).

5. Available in a Waterproof Version

Waterproof when using a cable gland (Note).

Note : KEIGLAND,
manufactured by SANKEI MANUFACTURING Co., Ltd.

6. Finger Protection Design

Complies with the electric shock proof specification (IP2X).

Note : Applies only to plug side in the case of EM40M and EM30M.

7. TÜV, UL

EM40M, EM30M : UL registered.

EM52M : TÜV registered,

UL application pending

Note : Please confirm specifications at time of delivery.

8. RoHS Compliant

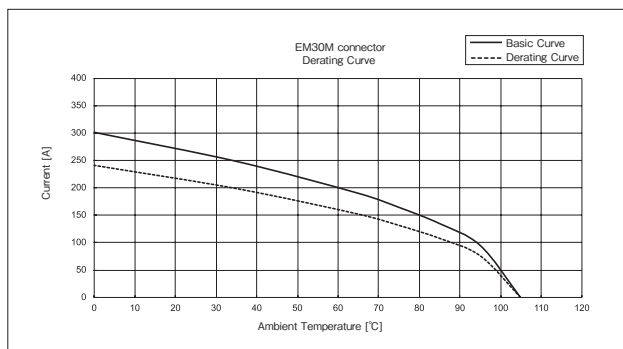
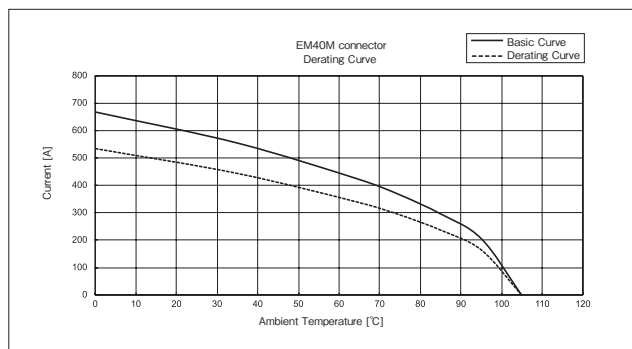
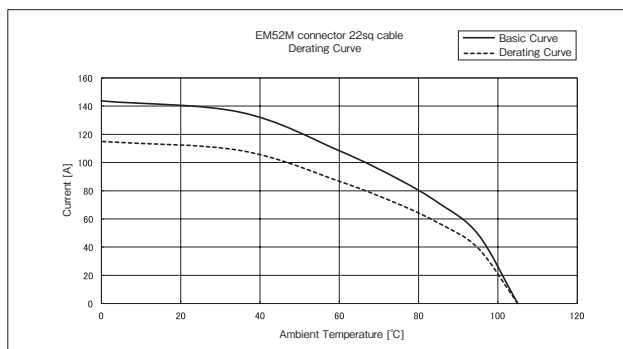
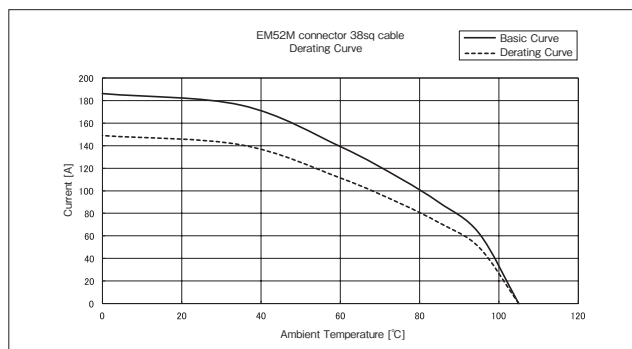
Product Specifications

Product		EM52M	EM40M	EM30M
No of Pos.		4pos.	1pos.	1pos.
Rated Current	Waterproof	TÜV :100A (38SQ) 80A (22SQ) General : 130A (38SQ) (Ambient temperature 25℃)	UL : 300A General : 410A (Ambient temperature 25℃)	UL : 150A General : 175A (Ambient temperature 25℃)
	Non-Waterproof	TÜV :100A (38SQ) 80A (22SQ) General : 140A (38SQ) (Ambient temperature 25℃)	UL : 300A General : 450A (Ambient temperature 25℃)	UL : 150A General : 200A (Ambient temperature 25℃)
Rated Voltage		1000V AC/DC 600V AC , 750V DC (TÜV)	1000V AC/DC 600V AC/DC (UL)	
Operating Temperature		-25 to +105℃ (Non-Waterproof specification) -20 to +90℃ (Waterproof specification) (Includes temperature rise due to current flow.)		
Storage Temperature		-10 to +60℃		
Conductor Area		22SQ: 16.78 to 26.66mm ² 38SQ: 26.66 to 42.42mm ²	117.2 to 152.05mm ²	42.42 to 60.57mm ²

Item	Specifications	Conditions
Contact Resistance	0.5m Ω Max. (EM52M) 0.3m Ω Max. (EM40M) 0.6m Ω Max. (EM30M)	Measured at 1A DC
Insulation Resistance	1000M Ω Min.	Measured at 500V DC
Withstanding Voltage	No flashover or dielectric breakdown	2200V AC for 1 min.
Mating Durability	Contact resistance 1.0m Ω Max. (EM52M) 0.8m Ω Max. (EM40M) 0.8m Ω Max. (EM30M)	50 cycles
Vibration Resistance	No electrical discontinuity of 10 μ s or more	Frequency : 10 to 55 to 10Hz/cycle, single amplitude of 0.75mm 5 minutes/cycle, 10 cycles in each of the 3 axis (EM52M Non-water-proof specification)
		Frequency : 10 to 500Hz/cycle, single amplitude of 0.75mm 3 hours in 3 axial directions (MIL-STD-1344 Method 2005 Condition II) (EM52M Water-proof specification, EM40M, EM30M)
Shock Resistance	No electrical discontinuity of 10 μ s or more	Acceleration : 490m/s ² , duration : 11ms, 6 directions, 3 cycles for each
Temperature Cycles	Insulation resistance : 1000M Ω Min.	-40°C : 30 minutes → Room temperature : 2 to 3 minutes → +105°C : 30 minutes → Room temperature : 2 to 3 minutes, 5 cycles
Humidity Resistance	Insulation resistance : 10M Ω Min. (at high humidity) 100M Ω Min. (dry environment)	Left for 96 hours at 40°C and humidity of 90 to 95%
Waterproof	No water intrusion inside connector	Submerged in 1m water depth for 30 minutes in mated condition.

[Reference] Derating Curve

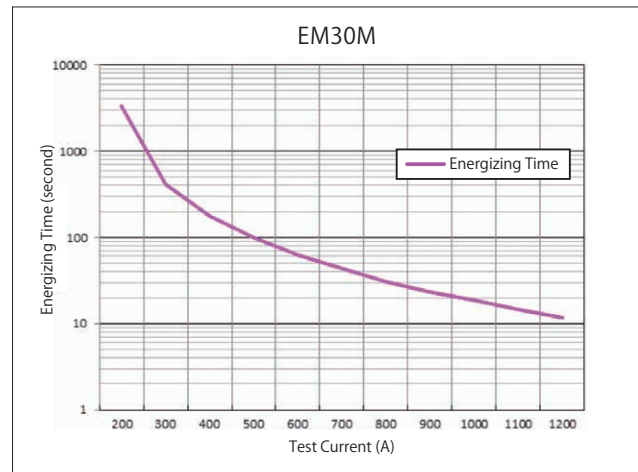
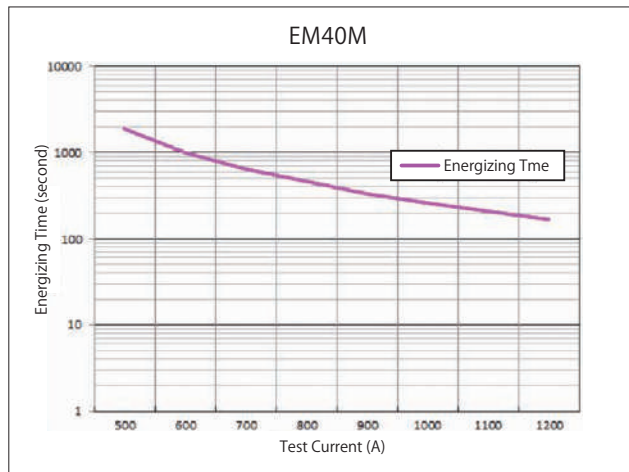
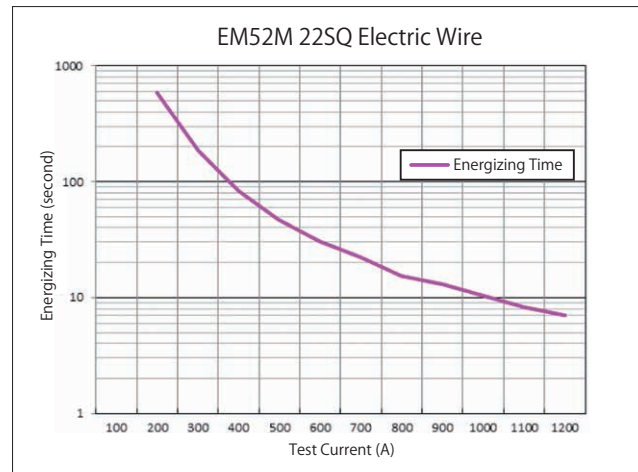
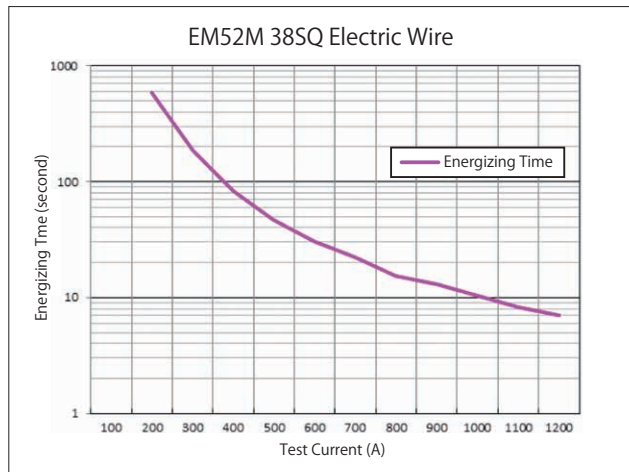
Operation below the derating curve (dotted line) is recommended.



Note : Derating curve could vary depending on cable type and measurement even under the same conditions.
Therefore, the data noted above are reference values, not connector specifications.

[Reference] Continuous Energizing Current Graph (Current-Time Graph)

[Temperature rise value 45°C] Energizing time (average value of all samples)



Note : The continuous energizing current graph is reference data used for current values exceeding the rated values for a short time.

Materials / Finish

Component	Materials	Color/Finish	Remarks
Insulator	PBT, PBT Alloy Resin	Black	UL94V-0
Contact	Copper	Silver Plated	-
Contact Spring	Copper Alloy	Silver Plated	-
Packing	Fluorosilicone Rubber	Black	-
O-Ring	Nitrile Rubber	Black	-

Product Number Structure

Please utilize the below part number chart when selecting.

■ Plug

EM ## M - # B P - # P C A - # (##)
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

■ Receptacle

EM ## M - # B R - # S C A - # (##)
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

■ Crimp Contact (Male)

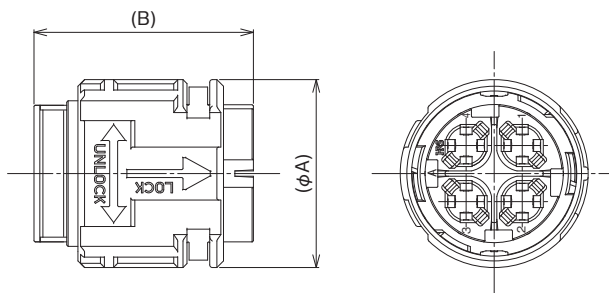
EM 52 M - P C # - 1 # 2 (##)
 ① ② ③ ⑧ ⑨ ⑬ ⑭ ⑮ ⑯ ⑫

■ Crimp Contact (Female)

EV1 - S C # - 1 # 2 (##)
 ① ⑧ ⑨ ⑬ ⑭ ⑮ ⑯ ⑫

① Series Name	EM, EV	⑨ Contact Connection Method	C : Crimp connection
② Shell Size	52, 40, 30	⑩ Mating Guide Indication	A, B, C, D
③ Style [1]	M : Mold type	⑪ Package	Unmarked : Standard K : Contact, retainer or sleeve shipped in a single package
④ Style [2]	W : Waterproof type Unmarked : Non-waterproof type	⑫ Special Specification	Alternate options
⑤ Lock Type	B : Bayonet lock	⑬ Contact Shape	Unmarked : Standard (with connection holes) 2 : Without connection holes
⑥ Connector Type	P : Plug R : Receptacle J : Jack	⑭ Contact Form	1 : Loose piece contact
⑦ No. of Pos.		⑮ Connection Section	1 : 22SQ-compliant 3 : 38SQ-compliant
⑧ Connector Gender	P : Male contact S : Female contact	⑯ Plating Class	2 : Silver plating

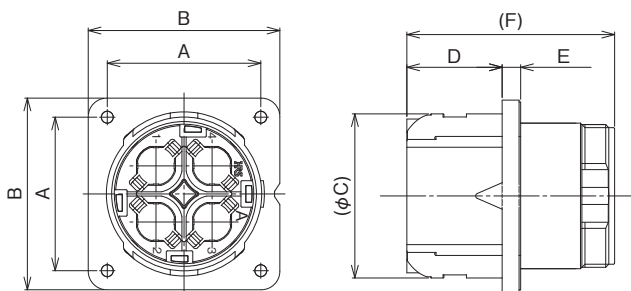
Plug



Unit : mm

Part No.	HRS No.	A	B	Remarks	Purchase Unit
EM52M-BP-4PCA	CL0138-0046-2-00	71	51.6	For non-waterproof type	6pcs per box
EM52M-WBP-4PCA	CL0138-0035-6-00			For waterproof type	
EM40M-WBP-1PCA-K(81)	CL0138-0070-0-81	53.2	39.5	For waterproof type, Contact and sleeve shipped in a single package	12pcs per box
EM40M-BP-1PCA-K(81)	CL0138-0072-0-81			For non-waterproof type, Contact and retainer shipped in a single package	20pcs per box
EM30M-WBP-1PCA-K(81)	CL0138-0074-0-81	40.6	26.7	For waterproof type, Contact and sleeve shipped in a single package	
EM30M-BP-1PCA-K(81)	CL0138-0076-0-81			For non-waterproof type, Contact and retainer shipped in a single package	

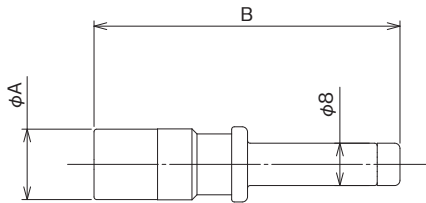
Receptacle



Unit : mm

Part No.	HRS No.	A	B	C	D	E	F	Remarks	Purchase Unit
EM52M-BR-4SCA	CL0138-0050-0-00	58	72.4	62	36	7	78.5	For non-waterproof type	6pcs per box
EM52M-WBR-4SCA	CL0138-0036-9-00							For waterproof type	
EM40M-WBR-1SCA-K(81)	CL0138-0071-0-81	45.96	56	46.5	27	6	75.7	For waterproof type, Contact and sleeve shipped in a single package	20pcs per box
EM40M-BJ-1SCA-K(81)	CL0138-0073-0-81							For non-waterproof type, Contact and retainer shipped in a single package	
EM30M-WBR-1SCA-K(81)	CL0138-0075-0-81	36.77	46	35.2	21.6	5	57.8	For waterproof type, Contact and sleeve shipped in a single package	
EM30M-BJ-1SCA-K(81)	CL0138-0077-0-81							For non-waterproof type, Contact and retainer shipped in a single package	

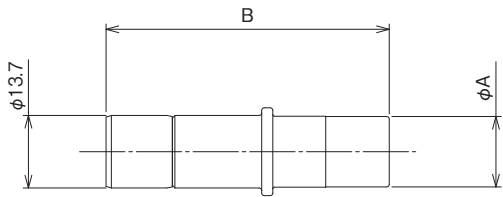
Male Contact



Unit : mm

Part No.	HRS No.	Conductor Area	A	B	Cap Color	Purchase Unit
EM52M-PC2-132	CL0138-0006-0-00	26.66 to 42.42mm ²	13.3	57.8	Gray	4pcs per bag
EM52M-PC-112	CL0138-0012-0-00	16.78 to 26.66mm ²	11.5	50.8	Black	

Female Contact



Unit : mm

Part No.	HRS No.	Conductor Area	A	B	Cap Color	Purchase Unit
EV1-SC2-132(03)	CL0139-0012-7-03	26.66 to 42.42mm ²	13.3	53.5	Gray	4pcs per bag
EV1-SC2-112(03)	CL0139-0013-0-03	16.78 to 26.66mm ²	11.5	50.5	Black	

Cable Gland



Part No.	HRS No.	Applicable Connector	Remarks
E2KD3636	—	EM52M	When using a 38mm ² wire
E2KD3236	—	EM52M	When using a 22mm ² wire
E2KD2428	—	EM40M	—
E2KD1620	—	EM30M	—

Note : This product is manufactured by SANKEI MANUFACTURING Co., Ltd.

Multiple Packing



Part No.	HRS No.	Applicable Connector	Outer Diameter of Applicable Wire	Applicable Cable Gland
EMGP36-11 × 4P	—	EM52M	φ 10 to 11mm	E2KD3636
EMGP36-12 × 4P	—		φ 11 to 12mm	
EMGP36-13 × 4P	—		φ 12 to 13mm	
EMGP32-9 × 4P	—		φ 8 to 9mm	E2KD3236
EMGP32-10 × 4P	—		φ 9 to 10mm	
EMGP32-11 × 4P	—		φ 10 to 11mm	

Note : This product is manufactured by SANKEI MANUFACTURING Co., Ltd.

Applicable Tools

● Contact Extraction Tool



EM52M-PC-TP

● Contact Extraction Tool



EM52M-SC-TP

● Manual Hydraulic Type Crimp Tool



9H-60

● Electric Hydraulic Type Crimp Tool



REC-Li150

Items	Part No.	HRS No.	Remarks
Contact Extraction Tool	EM52M-PC-TP	CL0150-0261-9-00	Male contact extraction tool
	EM52M-SC-TP	CL0150-0262-1-00	Female contact extraction tool
Manual Hydraulic Type Crimp Tool	HT111/9H-60	CL0902-1515-2-00	Equivalent product : 9H-60 made by Maxell Izumi Co., Ltd.
Electric Hydraulic Type Crimp Tool	—	—	Recommendation : REC-Li150 made by Maxell Izumi Co., Ltd.

Safety Precautions

⚠ Warning

- Do not touch the exposed conductor while it is energized. Failing to follow this warning may cause an electric shock and injury. ⚠
- The power should be in the OFF position when inserting or extracting this connector.
- After mating this connector, perform a light pull on the cable to ensure that it has been correctly mated and is locked securely. Incomplete mating may result in disconnection or contact failure and is extremely dangerous.

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