

veam

MOVE-MOD™ Series
Modular Circular
Connectors Catalog



ITT

We Connect

When it matters most

In an increasingly global economy, getting from Point A to Point B on time and on budget is more important than ever. Veam connectors protect the world's products and people in transit so they can get to where they're going with maximum efficiency.

Proven quality, reliability and expertise

The Veam difference

- Global capabilities & local support
- Proven application expertise
- Over 60 years of rail interconnect leadership
- A committed innovator & business partner

About ITT

ITT is a diversified leading manufacturer of highly engineered critical components and customized technology solutions for the energy, transportation and industrial markets. Building on its heritage of innovation, ITT partners with its customers to deliver enduring solutions to the key industries that underpin our modern way of life. Founded in 1920, ITT is headquartered in White Plains, N.Y., with employees in more than 35 countries and sales in a total of approximately 125 countries. For more information, visit www.itt.com



MOVE-MOD™ Series



True modularity in a circular interconnect.
Delivering power, signal and data in a single connector.

The innovative new MOVE-MOD™ series delivers the ultimate in modularity and flexibility by utilizing a range of snap-in modules to enable a variety of contact layouts in the same connector. Whatever the application, you can configure and reconfigure a tailor-made solution that can deliver power, signal, and data in a single ultra-robust connector shell.

Toolless assembly and installation make MOVE-MOD extremely quick and straightforward to work with, and the minimized component requirement delivers cost and time efficiencies throughout the supply chain. A unique ultra-secure bayonet coupling mechanism with secondary locking and a circular form factor that minimizes weight and footprint size means you can rely on MOVE-MOD to deliver – when it matters most.

Technical Overview

Environmental Sealing	IP67
Operating Temperature Range	-55°C to 115°C
Hazardous Substance Compliance	RoHS and REACH
Corrosion Resistance	Minimum 500hrs salt spray resistance
Fire and Smoke Standards	EN45545 R22/R23 HL3 NPFA 130 UL94V0
Railway Standards	EN 50467 (full details available on request)
Shock and Vibration Standards	EN 61373 Category 2 (up to bogie application)
Mating Cycles	Minimum 500
Electrical Standards	EN 50124-1 (OV3-PD3)

Key Features

- Power, signal and data in a single connector
- Minimized component requirement delivers time and cost efficiency
- Quick and simple toolless assembly and installation
- Unique ultra-secure bayonet coupling mechanism with secondary locking
- Minimized weight and a space-saving footprint
- RoHS compliant ruggedized plating options including Blue Generation (T240) and Black Hard Anodized (T89)



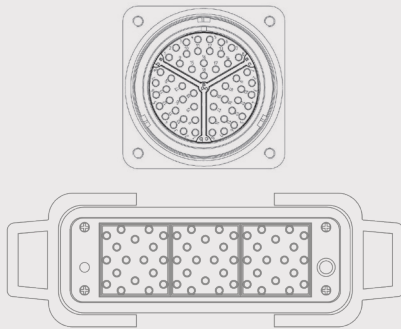
Applications

- Railway rolling stock
- Railway infrastructure
- Heavy and off-road transportation
- Harsh environment industrial
- Energy and infrastructure



Circular Size Advantages

One key advantage circular harsh environment connectors have over their rectangular equivalents is the footprint. As illustrated below, a high-density circular solution such as MOVE-MOD can deliver similar a contact count to a rectangular connector but with a footprint that is considerably less. Vital, for when space is at a premium, or you need flexibility for future application developments.



Comparable receptacle connectors with similar modules, poles and electrical characteristics

Unique Ultra-secure mating with Secondary Locking

With an innovative bayonet coupling systems that utilizes a reduced rotation angle, a smooth ramp, a sliding coupling nut and pre alignment studs, MOVE-MOD is both resistant to the harshest shock and vibration conditions and simple to couple and decouple. It features a patented secondary locking system with visual, tactile and audible locking confirmation.



1. Align the arrow to the master key



2. Push coupling nut forward



3. Rotate to mate

Innovative and Fully Proven Plating Options

MOVE-MOD is available in two ultra-harsh environment RoHS and REACH compliant plating options that deliver 500 hour salt spray resistance. The proprietary Blue Generation (T240) plating is high-performance Zinc Nickel formulation that is conductive and offers excellent RFI shielding. While the non-conductive Black Hard Anodized (T89) solution is deployed in extreme environments throughout the globe.



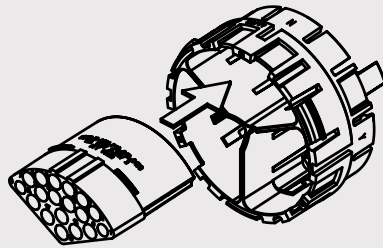
Versatile

Flexible

Modular

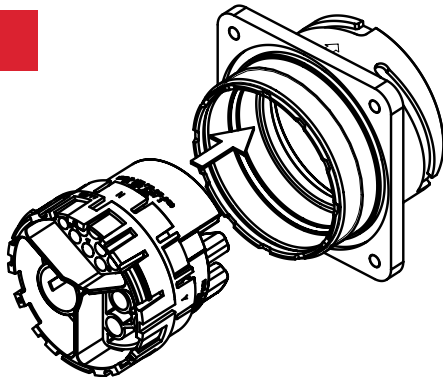
MOVE-MOD ASSEMBLY OVERVIEW

Modules



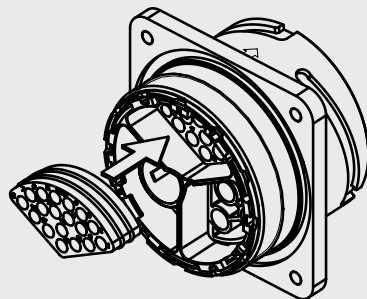
- Choose and create the insulator layout. Install the module pushing them from the rear side into the frame.
- On the frames the 3 sectors are marked with letters. A-B-C = Male a-b-c = Female
- The module are fitted by a snap-in system.
- They can easily be removed without the aid of a special tool.

Frames



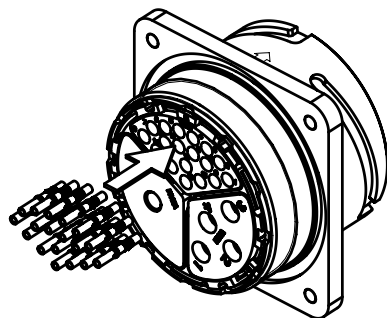
- The frame with assembled modules can be installed into the shells pushing them from the rear side.
- The frame has 4 polarization (N-W-X-Y) slots that must be aligned to one key on the shell. This allows four different polarization for each layout.
- The frames are fitted by a snap-in system.
- They can easily be removed without the aid of a special tool.

Grommets



- If single wires sealing is required, the insulator can be completed by using the grommets.
- Simply push the grommet in the rear location of the corresponding module.
- Be careful to select the correct cavity numbers.

Contacts



- The contacts can be installed pushing them through the grommet holes.
- Some contacts must be installed before the grommet.
- The contacts are retained by plastic (on the insulator) or metallic (on the contact) clips.
- Use the correct extraction tool to remove contacts.

MOVE-MOD DIMENSION DRAWINGS AND PART NUMBERS

Receptacles and Plugs

HOW TO ORDER

Receptacles and Plugs **MOVE** - **R** **A** - **40M** - **1** **N** **05** - **SL** **XX**

Product Family
MOVE

Component
R = Receptacle
P = Plug

Material
A = Aluminum

Size
40M = Modified Size 40

Colour
1 = Black (T89)
2 = Blue (T240)

Grounding Finger
GF = With RF shield spring
XX = Without RF shield spring

Secondary Locking
SL = Yes

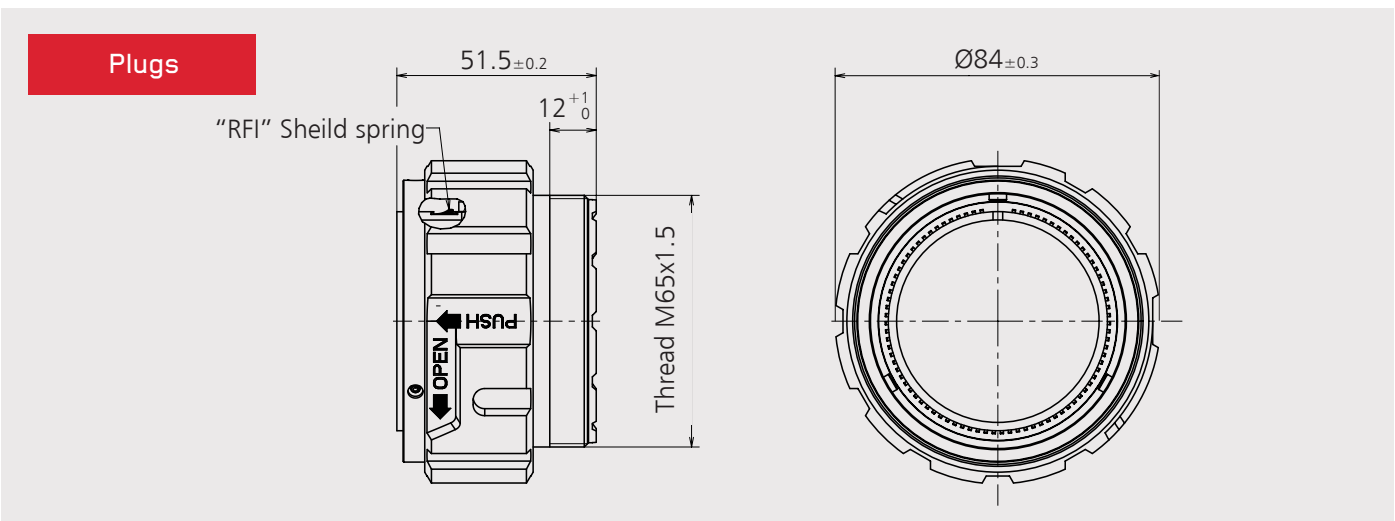
Salt Spray Resistance
05 = 500 hours

Conductivity
N = No (T89 only)
C = Yes (T240 only)

Part Number	Description
MOVE-RA-40M-1N05-SLXX	Receptacle (Black T89)
MOVE-RA-40M-2C05-SLGF	Receptacle (Blue T240)
MOVE-RA-40M-2C05-SLXX	Receptacle (Blue T240)
MOVE-PA-40M-1N05-SLXX	Plug (Black T89)
MOVE-PA-40M-2C05-SLGF	Plug (Blue T240)
MOVE-PA-40M-2C05-SLXX	Plug (Blue T240)

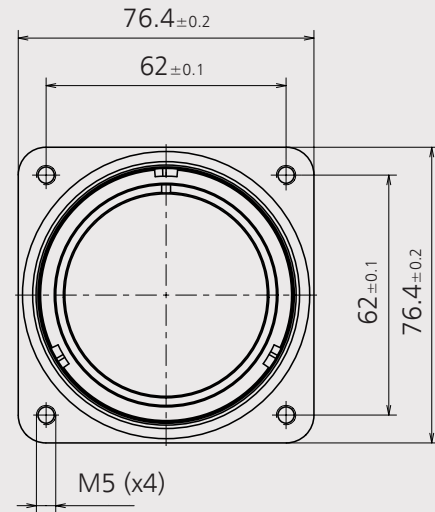
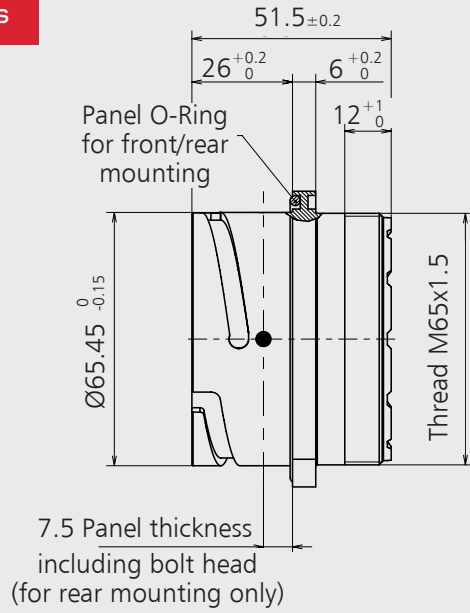
Materials

Shell	Aluminum alloy with black (T89) non-conductive plating or Blue (T240) conductive plating
Gasket	Silicone rubber



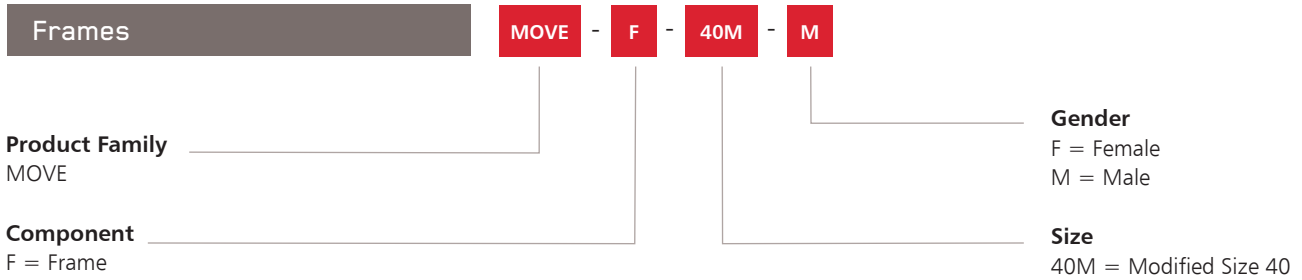
Receptacles and Plugs

Receptacles



Frames

HOW TO ORDER

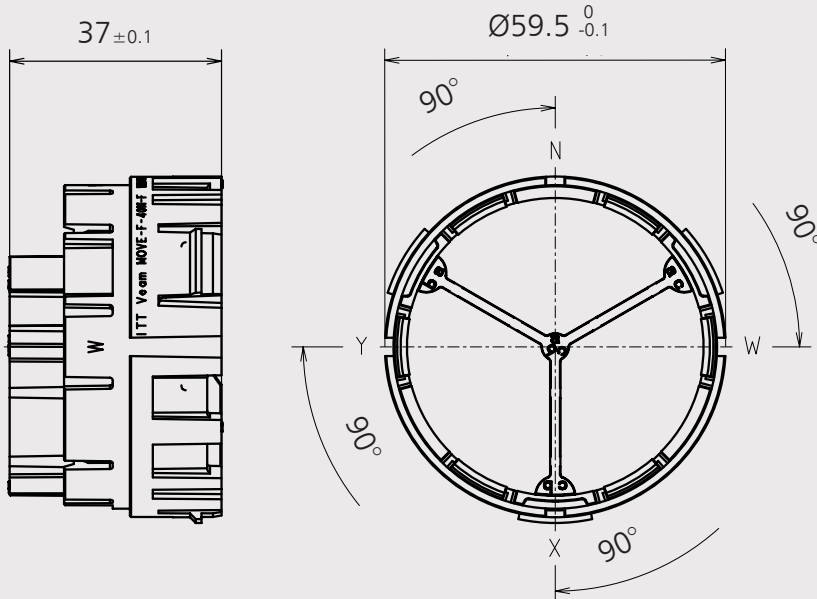


Part Number	Description
MOVE-F-40M-F	Female Frame
MOVE-F-40M-M	Male Frame

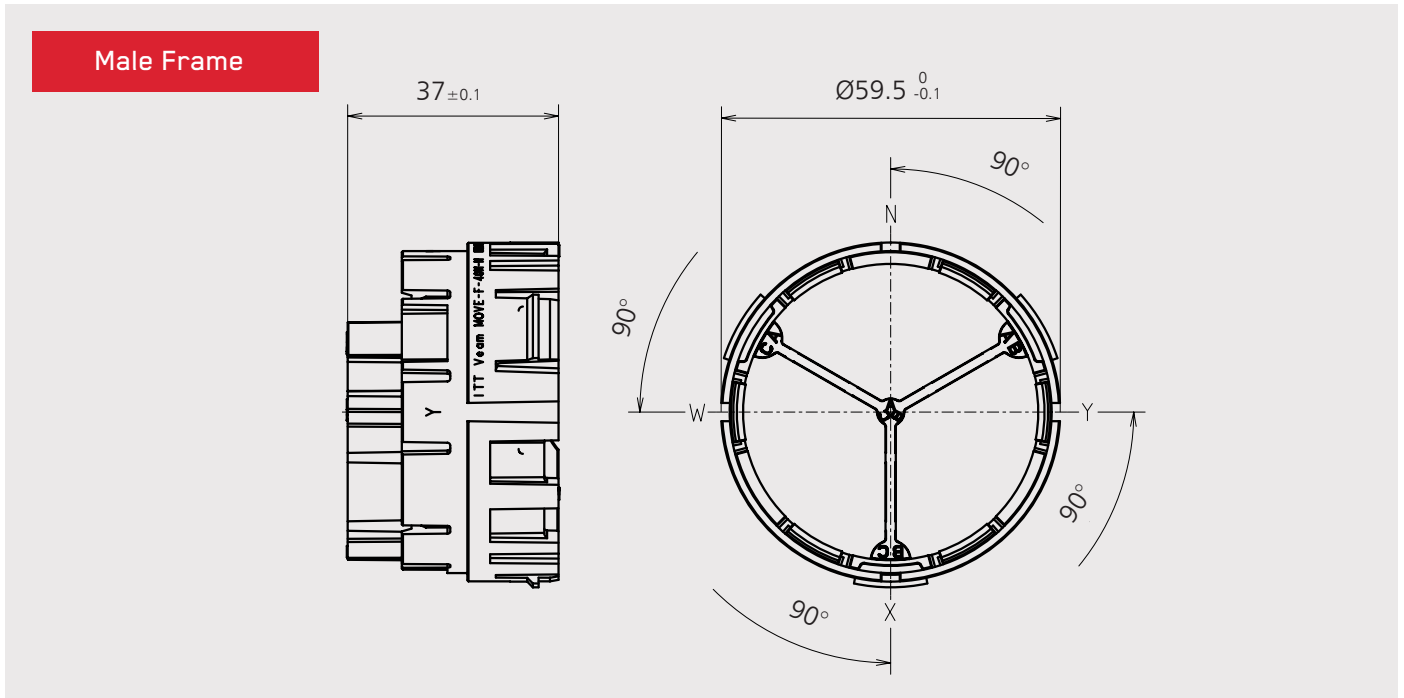
Materials

Frame	Flame Retardant Thermoplastic Material
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Female Frame



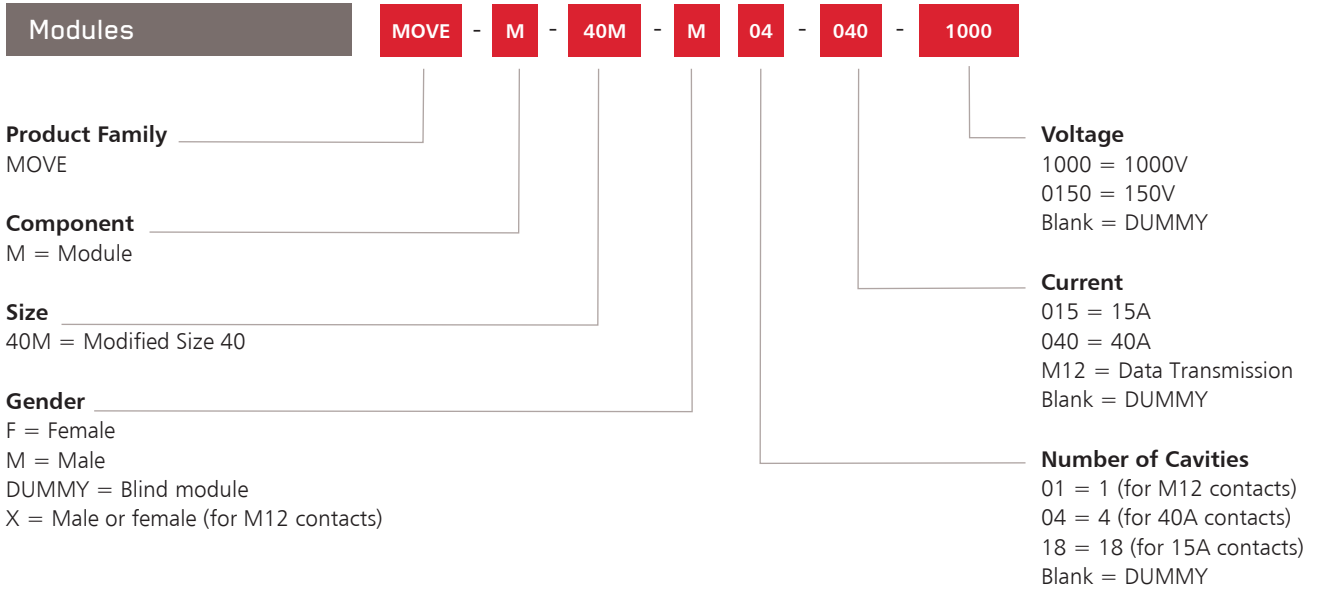
Frames



Dimensions shown in mm
 Specifications and dimensions subject to change

Modules

HOW TO ORDER

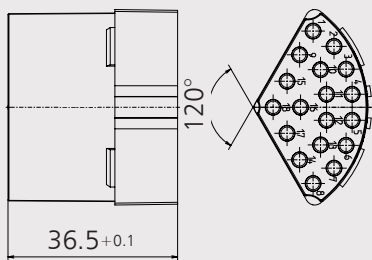


Part Number	Description
MOVE-M-40M-F18-015-0150	Module (18-pole, female)
MOVE-M-40M-M18-015-0150	Module (18-pole, male)
MOVE-M-40M-F04-040-1000	Module (4-pole, female)
MOVE-M-40M-M04-040-1000	Module (4-pole, male)
MOVE-M-40M-X01-M12	Module (M12)
MOVE-M-40M-DUMMY	Module (dummy)

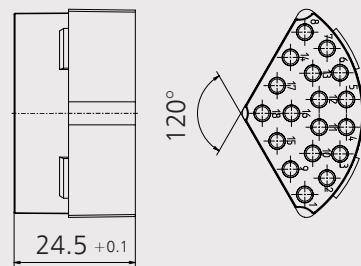
Materials

Modules	Flame Retardant Thermoplastic Material
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18-pole Female Module

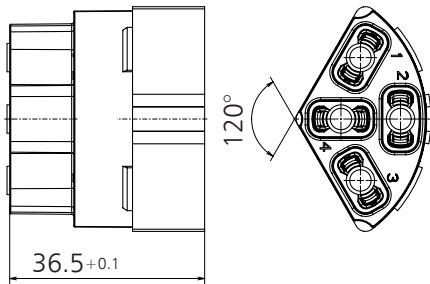


18-pole Male Module

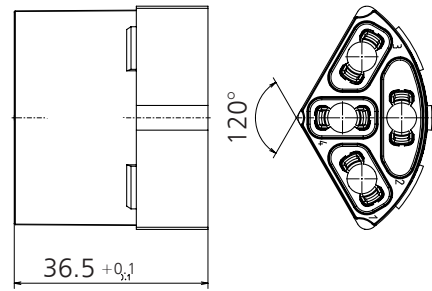


Modules

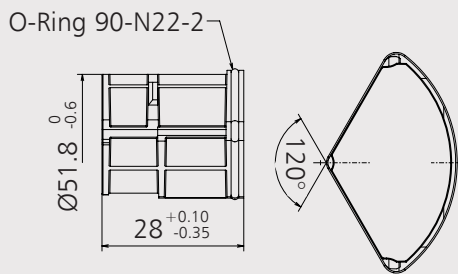
4-pole Female Module



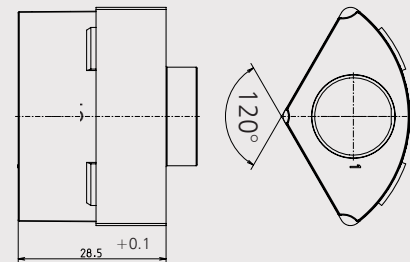
4-pole Male Module



Dummy Module



M12 Module



Grommets

HOW TO ORDER

Grommets **MOVE** - **G** - **40M** - **X** **01** - **M12** - **05**

Product Family
MOVE

Component
G = Grommet

Size
40M = Modified Size 40

Gender
X = Female or Male

Insulation Diameter Index
04 - See dimension data in cable range table
05 - See dimension data in cable range table

Current
015 = 15A
040 = 40A
M12 = Data Transmission

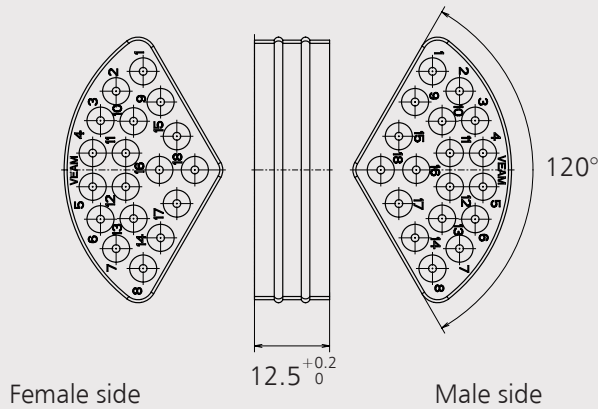
Number of Cavities
01 = 1 (for M12 contacts)
04 = 4 (for 40A contacts)
18 = 18 (for 15A contacts)

Part Number	Description	Cable Range - 04	Cable Range - 05
MOVE-G-40M-X04-040-05	4-pole Grommet	-	from Ø3mm. up to Ø6mm
MOVE-G-40M-X18-015-04	18-pole Grommet	from Ø0.8mm up to Ø1.7mm	-
MOVE-G-40M-X18-015-05	18-pole Grommet	-	from Ø1.3mm up to Ø3.5mm
MOVE-G-40M-X01-M12-05	M12 Grommet	-	from Ø6mm up to Ø10mm

Materials

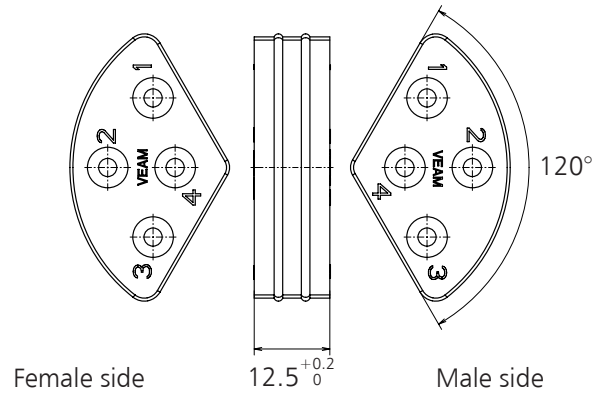
Grommet Flame retardant rubber

18-pole Grommet

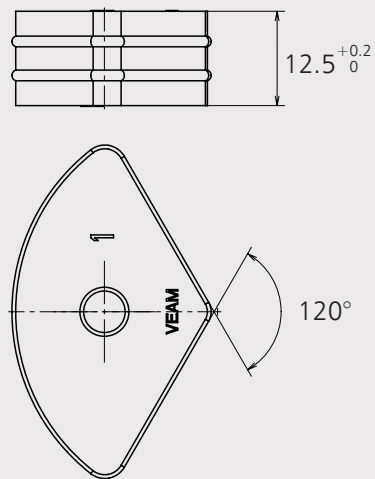


Grommets

4-pole Grommet



M12 Grommet



Contacts

HOW TO ORDER



Product Family

MOVE

Component

- C = Contact
- CEX = M12 Contact (8 poles)
- CQX = M12 Contact (4 poles)
- CTX = M12 Contact (2 poles)

Gender

- F = Female
- M = Male

Contact Type

- C = Crimp

Current

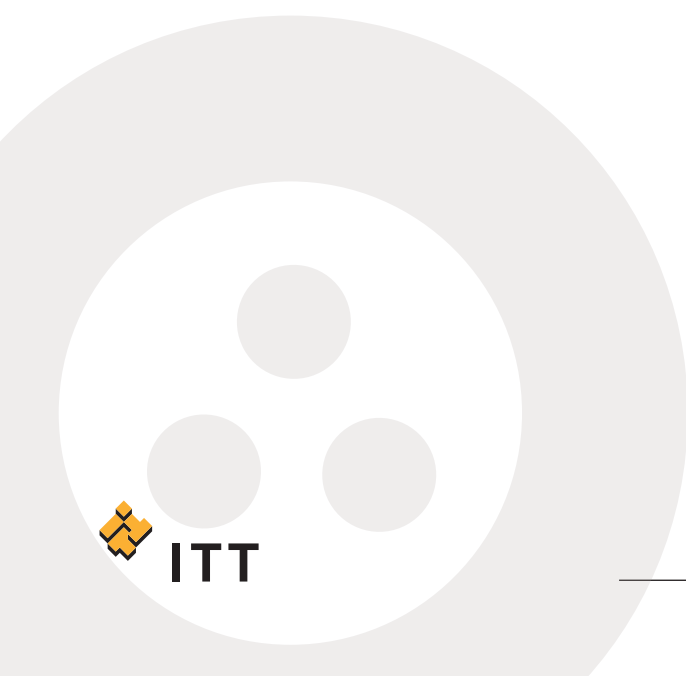
- 015 = 15A
- 040 = 40A
- M12 = Data Transmission

Crimp Range

- 0.5 = 0.5mm² wire (for 15A contacts)
- 1.5 = 1.5mm² wire (for 15A contacts)
- 2.5 = 2.5mm² wire (for 15A contacts)
- 4 = 4mm² wire (for 40A contacts)
- 6 = 6mm² wire (for 40A contacts)
- 10 = 10mm² wire (for 40A contacts)
- A1 = Cable range: 8 -10mm (for M12 contacts)
- A2 = Cable range: 6 - 8mm (for M12 contacts)

Plating

- G = Gold
- S = Silver
- X = White zinc (for M12 contacts)

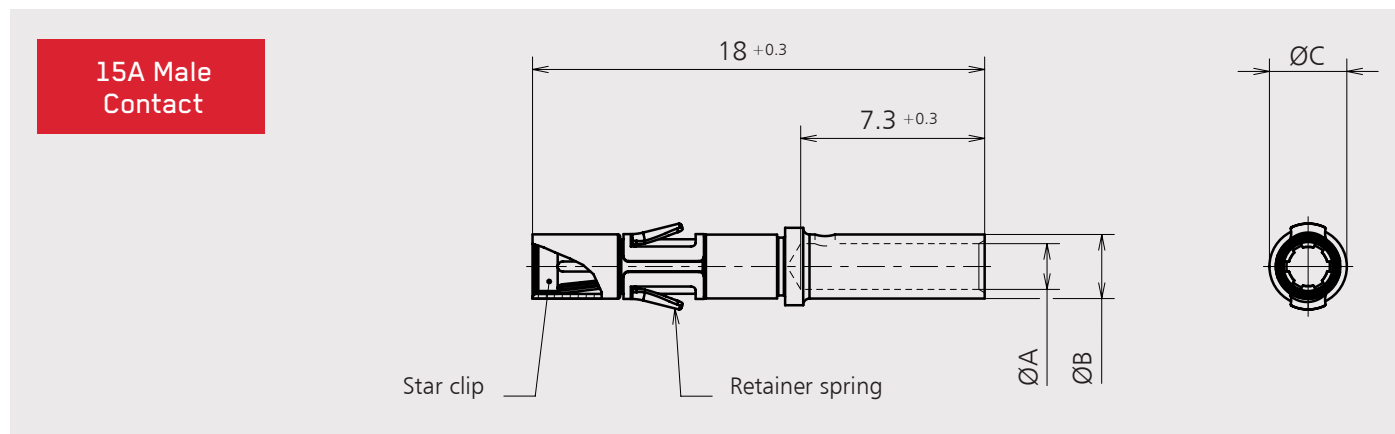
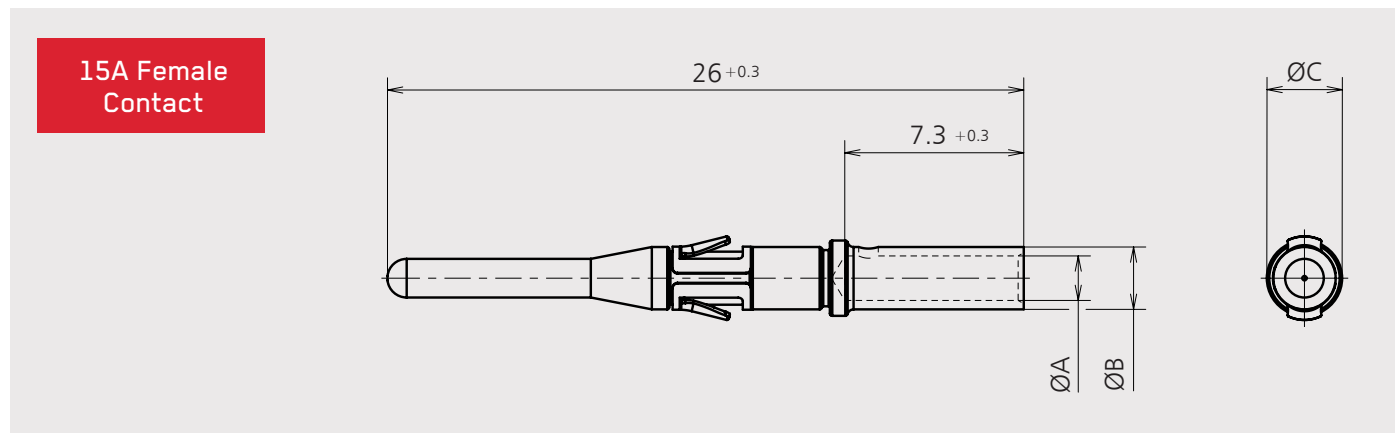


15A Contacts

Part Number	Description	Wire Size mm ²	Wire Size AWG	Diameter A	Diameter B	Diameter C
MOVE-C-F-C015G-0.5	15A Female contact	0.44 - 0.64	20	1.15	1.84	3.08
MOVE-C-F-C015G-1.5	15A Female contact	0.60 - 1.51	16	1.82	2.55	3.08
MOVE-C-F-C015G-2.5	15A Female contact	1.50 - 2.50	14	2.10	3.05	3.05
MOVE-C-M-C015G-0.5	15A Male contact	0.44 - 0.64	20	1.18	1.84	3.08
MOVE-C-M-C015G-1.5	15A Male contact	0.60 - 1.51	16	1.82	2.55	3.08
MOVE-C-M-C015G-2.5	15A Male contact	1.50 - 2.50	14	2.10	3.05	3.05

Materials

Body - Female	Copper alloy gold plated (Au=0.125μ over Ni=1.27μ min.)
Body - Male	Copper alloy gold plated (Au=0.4μ min. over Ni=5μ min.)
Star clip	Copper alloy (Au=1μ over Ni=1.27μ min.)
Retainer spring	Beryllium copper

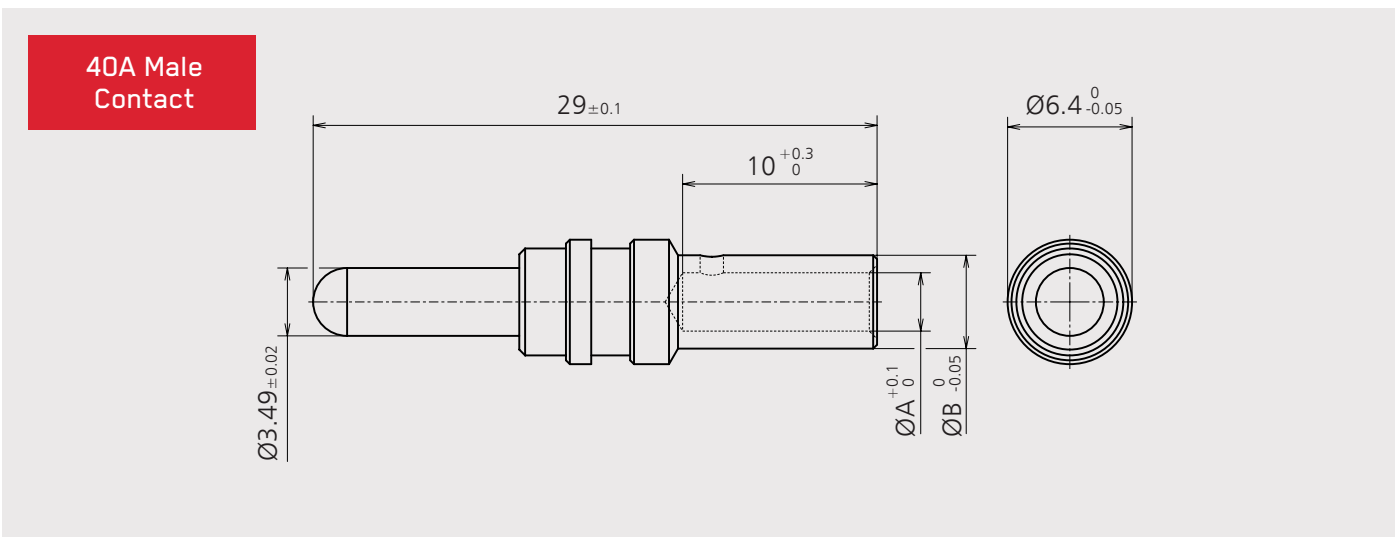
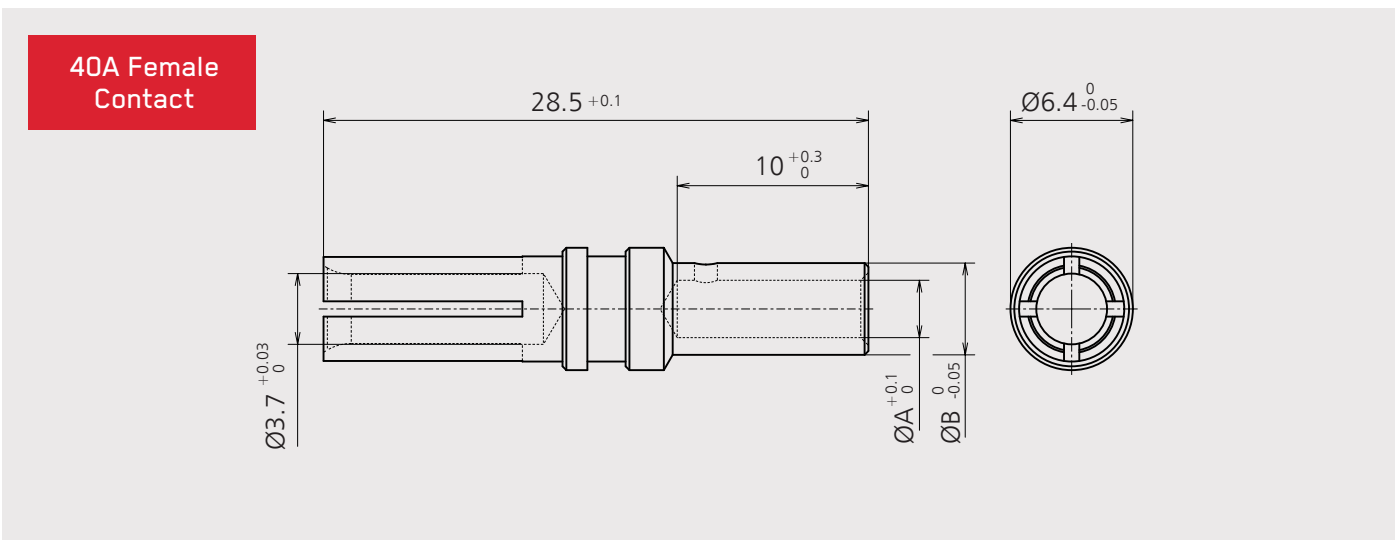


40A Contacts

Part Number	Description	Wire Size mm ²	Diameter A	Diameter B
MOVE-C-F-C040S-10	40A Female contact	4.0	3.0	4.8
MOVE-C-F-C040S-4	40A Female contact	6.0	3.4	4.8
MOVE-C-F-C040S-6	40A Female contact	10.0	4.1	5.6
MOVE-C-M-C040S-10	40A Male contact	4.0	3.0	4.8
MOVE-C-M-C040S-4	40A Male contact	6.0	3.4	4.8
MOVE-C-M-C040S-6	40A Male contact	10.0	4.1	5.6

Materials

Body	Copper alloy silver plated (Ag=5.1 ÷ 8.5μ + Protective Passivation)
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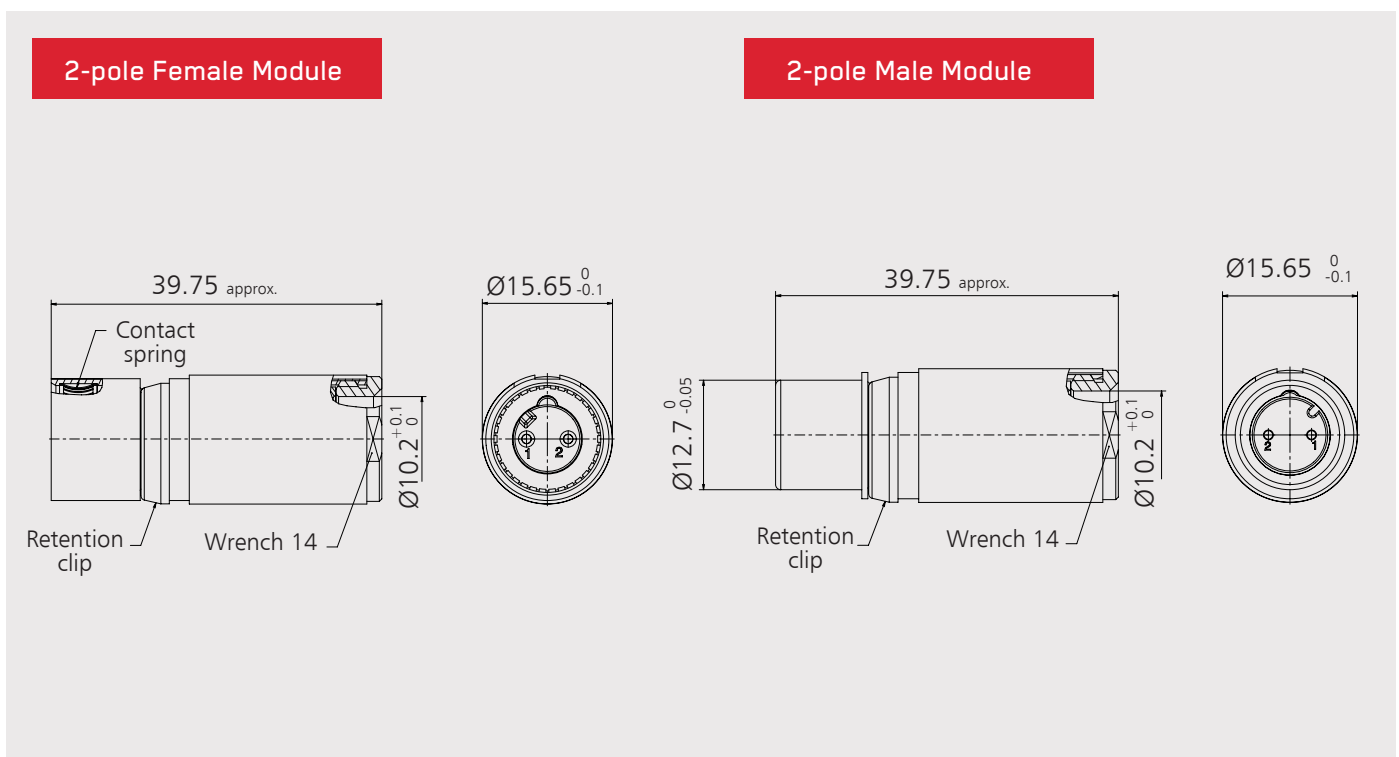


M12 Contacts

Part Number	Description	Wire Size mm ²	Wire Size AWG
MOVE-CTX-F-CM12X-A1	M12 2-pole Female contact	0.34 - 0.75	22
MOVE-CTX-M-CM12X-A1	M12 2-pole Male contact	0.34 - 0.75	22
MOVE-CQX-F-CM12X-A1	M12 4-pole Female contact	0.34 - 0.75	22
MOVE-CQX-M-CM12X-A1	M12 4-pole Male contact	0.34 - 0.75	22
MOVE-CEX-F-CM12X-A1	M12 8-pole Female contact	-	23 - 26
MOVE-CEX-M-CM12X-A1	M12 8-pole Male contact	-	23 - 26

Materials

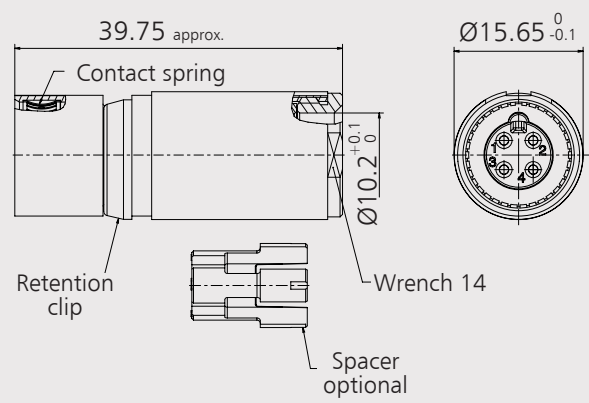
Body	Zinc-aluminum alloy, with white tropicalization plating
Insulator and plastic component	Flame Retardant Thermoplastic Material
Inner contacts	Copper alloy, gold plated



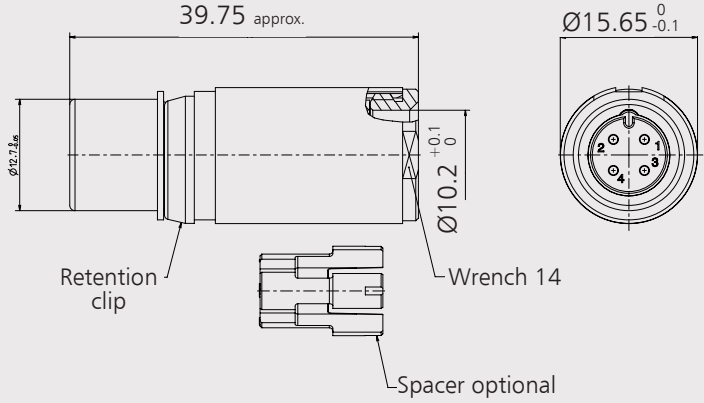
Dimensions shown in mm
 Specifications and dimensions subject to change

M12 Contacts

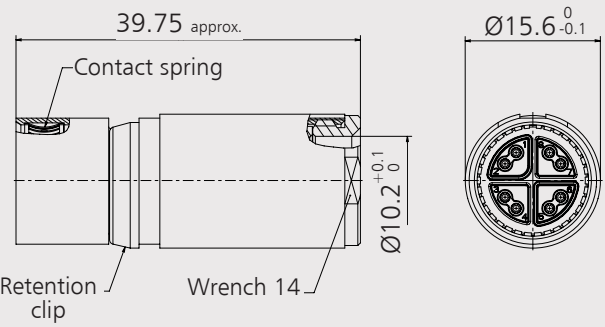
4-pole Female Module



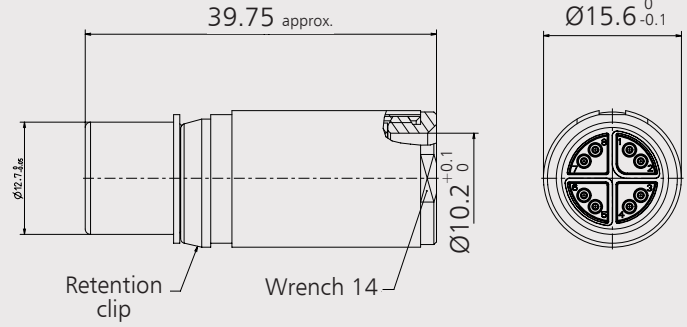
4-pole Male Module



8-pole Female Module

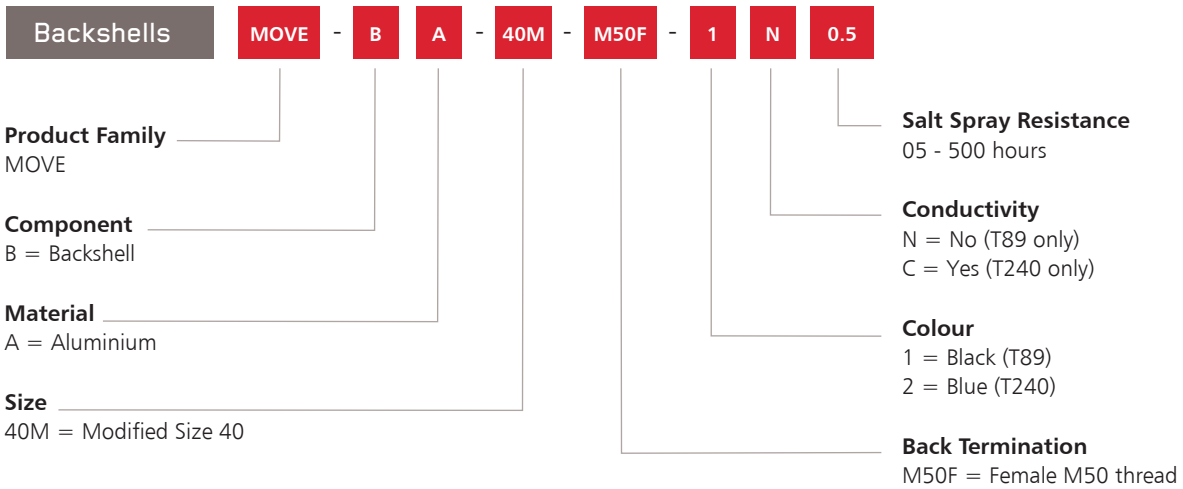


8-pole Male Module



Backshells

HOW TO ORDER

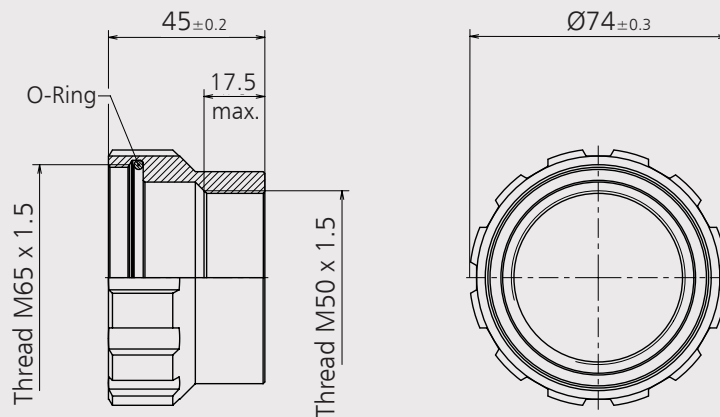


Part Number	Description
MOVE-BA-40M-M50F-1N05	Backshell (Black T89)
MOVE-BA-40M-M50F-2C05	Backshell (Blue A240)

Materials

Shell	Aluminum alloy with black (T89) non-conductive plating or Blue (T240) conductive plating
Gasket	Silicone rubber

Backshell



Contact the factory for accessory options.

MOVE-MOD TOOLING

Contact Extraction Tools

Part Number	Description
MOVE-T	Frame & Module Extraction Tool
MOVE-T-015	15A Contact Extraction Tool
MOVE-T-040	40A Contact Extraction Tool
MOVE-T-M12	M12 Contact Extraction Tool

Frame & Module Extraction Tool



15A Contact Extraction Tool



40A Contact Extraction Tool



M12 Contact Extraction Tool



Crimping Tools

Part Number	Description
MOVE-T-FT8	15A Contact Crimping Tool
MOVE-T-B450ND-BV	40A Contact Crimping Tool
MOVE-T-612118-M12	M12 Contact Crimping Tool
MOVE-T-M22520/1-05	15A Contact Locator
MOVE-T-51589-37T70	40A Contact (4-6mm ²) Crimping Die
MOVE-T-MK6	40A Contact (10mm ²) Crimping Die
MOVE-T-46257-EX	M12 EX Contact Locator
MOVE-T-46257-QX	M12 QX & TX Contact Locator

40A Contact (4-6mm²) Crimping Die



40A Contact (10mm²) Crimping Die



Contact Locator Tool



M12 Contact Crimping Tool



15A Contact Crimping Tool



40A Contact Crimping Tool



Contact Insertion Instructions

With Grommets (single wire sealing required)



1. Choose each grommet according to the layout of the module.



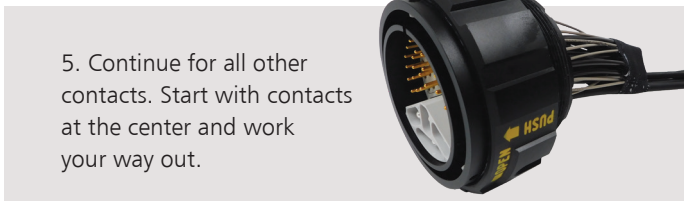
2. Simply push grommet in the rear location of corresponding module. Be careful to select the correct cavity numbers present on its faces.



3. Some grommets have holes closed with a membrane which should be pre-punched in order to help the female contact insertion. For this operation a pin can be used. The membrane avoids using filler plugs if the cavity is not used.



4. Push the contact (*) through the grommet hole according the wiring diagram, until the mechanical stop is reached. Gently push and pull the individual wire a couple of times. The motion will show if the contact is correctly seated.
(*) M12 contacts must be installed before the grommet.



5. Continue for all other contacts. Start with contacts at the center and work your way out.

Use the Correct extraction tool to remove contacts

Contact Insertion Instructions

Without Grommets



1. Push the contact through the cavity according the wiring diagram until the mechanical stop is reached. Gently push and pull the individual wire a couple of times. The motion will show if the contact is correctly seated.



2. Complete the operation for all the other contacts.

Use the correct extraction tool to remove contacts

Contact Part Number		Contact Size	mnq	Stripping length (L)	Setting	Contact Part Number		
Male	Female					Crimping Tool	Locator/ Crimping die	Removal tool
MOVE-C-M-C015G-0.5	MOVE-C-F-C015G-0.5	#16 (15A)	0.5	7.1 ±0.25 mm	4	MOVE-T-FT8	MOVE-T-M22520/1-05	MOVE-T-015
MOVE-C-M-C015G-1.5	MOVE-C-F-C015G-1.5		0.75		5			
MOVE-C-M-C015G-2.5	MOVE-C-F-C015G-2.5		1		5			
			1.5		6			
			2.5		8			
MOVE-C-M-C040S-4	MOVE-C-F-C040S-4	8 (40A)	4	10 ±0.25 mm		MOVE-T-B450ND-BV	MOVE-T-51589-37T70	MOVE-T-040
MOVE-C-M-C040S-6	MOVE-C-F-C040S-6		6					
MOVE-C-M-C040S-10	MOVE-C-F-C040S-10		10				MOVE-T-MK6	

For M12 contacts, please consult dedicated assembly procedure: SVA007, SVA008, SVA009.

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or visit us at www.ittcannon.com

Connect with the experts


Highly engineered connector solutions for multiple end markets.



Why ITT

ITT is a focused multi-industrial company that designs and manufactures highly engineered critical components and customized technology solutions. Veam connector products are relied on by global customers in multiple end markets. ITT's Connector business, which also includes the Cannon and BIW Connector Systems brand, manufactures and supplies a variety of connectors and interconnects that make it possible to transfer data, signal and power in an increasingly connected world.

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