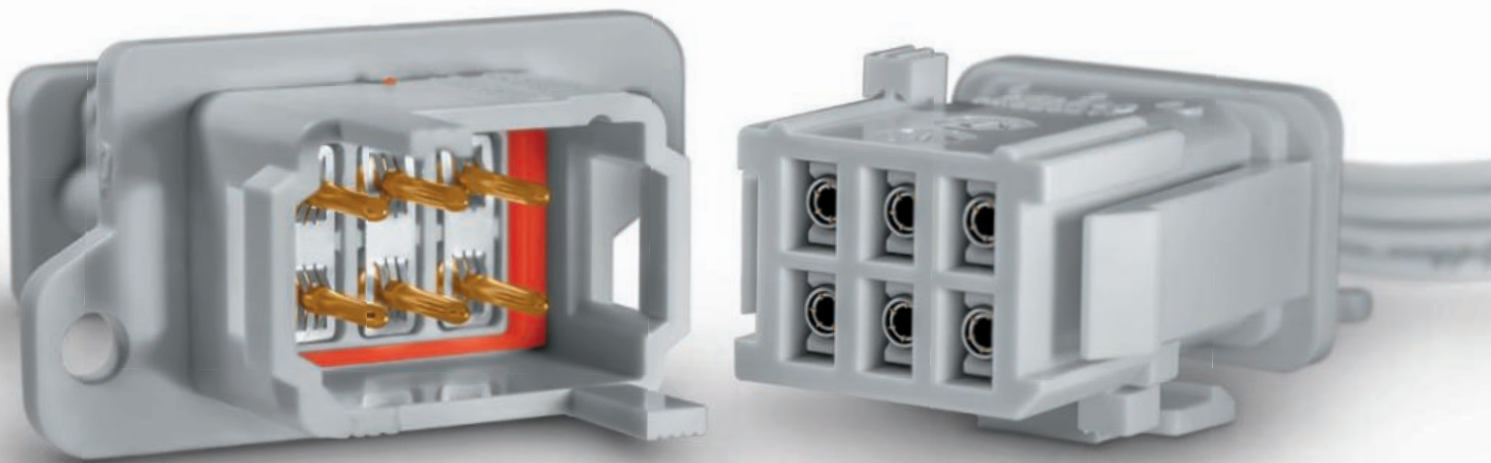


REP SERIES

Environmentally-Sealed Rectangular Plastic Connectors



FEATURES

- ▶ **Compact, flexible design**
 - ▶ Standard insulators available in 2, 6 and 12-way configurations
 - ▶ Crimp, straight and bent termination options
- ▶ **Easy mounting and maintenance**
 - ▶ No specific tooling required for mounting
 - ▶ One contact required for cross-section cables 0.50-2.50 mm² (24-12 AWG) to NFF 63-808 and EN 50-306 standards
- ▶ **High quality, integrated features**
 - ▶ Overmoulded silicone grommet and interfacial seal deliver IP66 and IP67 protection
 - ▶ Vibration resistance to EN 61-373, Category 2 standards
 - ▶ Compliance to fire and smoke standards
 - ▶ Improved polarised guides
 - ▶ Three coding devices: cable-to-cable, clip locking, and front and back panel mount
- ▶ **Hypertac® contact technology**
 - ▶ 360° wiping action
 - ▶ Low insertion/extraction forces
 - ▶ Minimal contact resistance

BENEFITS

- ▶ **Optimised for use in rail and embedded applications**
 - ▶ Space and weight savings
 - ▶ Qualified to ensure high degree of safety
 - ▶ Able to accept a large panel of cables with standard offering
- ▶ **Complete, tested pre-cabled solutions available to customer's exact specifications**
- ▶ **Fast and reliable connection**
 - ▶ Failure-free performance in extremely demanding environments
 - ▶ Immunity to fretting caused by mating/unmating and shock and vibration
- ▶ **Reduced cost of ownership**
 - ▶ Minimised supply chain, inventory and maintenance costs
 - ▶ Lowered cabling costs
- ▶ **Superior performance**
 - ▶ Hypertac® contacts ensure 30% higher current carrying capacity than contacts of the same size

REP SERIES

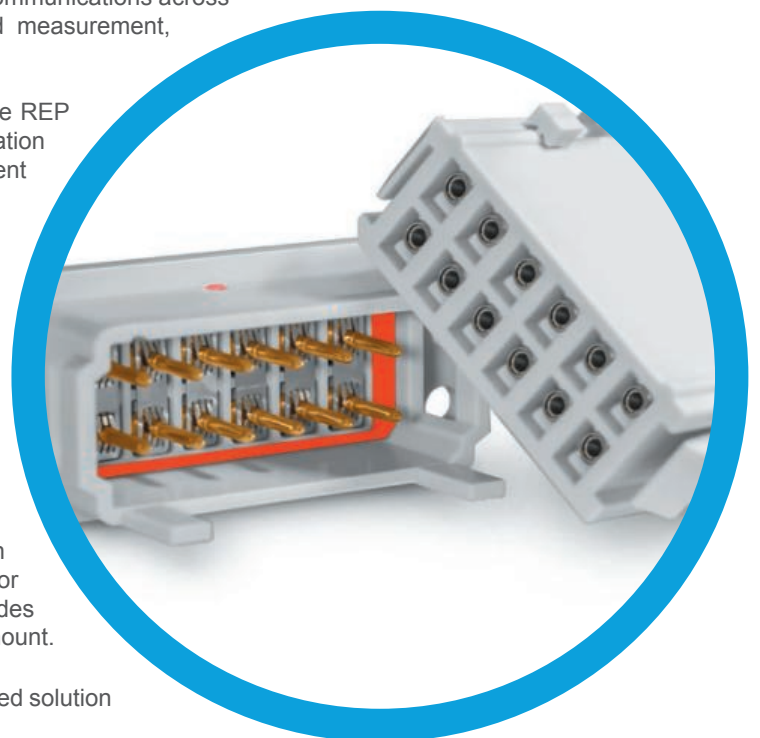
Smiths Connectors delivers optimal durability with the REP Series multi-pole, sealed, plastic connectors. The quick and secure connection is designed specifically for embedded equipment such as sensors, brakes, lighting, air conditioning and communications across a wide range of industries: automotive, industrial, rail, test and measurement, defence and public works.

Utilizing the superior Hypertac® hyperboloid contact technology, the REP Series guarantees excellent reliability in extreme shock and vibration conditions while providing up to 500 mating cycles and high current ratings up to 18 A.

The REP connector series includes two main versions: crimp terminated contacts for cable harness applications; and straight or bent terminated contacts for PCB mount applications. Both versions are available in 3 layouts: 2, 6 and 12 ways. The connectors come with a shunt accessory enabling electrical derivation inside the connector for transmission of information to different locations.

Only one contact is required for cross section cables 0.5 mm² to 2.5 mm² (24-12 AWG) according to NFF 63-808 and EN 50-306 standards. No specific tool is required, with consequent reduction of supply chain, maintenance and cabling costs. Furthermore, for easy mounting, the connector includes polarised guides and provides several configurations: cable to cable, clips, front and back panel mount.

Connectors are available for delivery as a complete, tested pre-cabled solution according to customers' specifications.



TECHNICAL CHARACTERISTICS

		STANDARDS
Contact Arrangements	2, 6, 12	—
Contact Diameter	Size 16: Ø1.50 mm (0.059 in)	—
Weight <i>(contacts included)</i>	2-way: 17.3 g (0.61 oz)	—
	6-way: 35.5 g (1.25 oz)	—
	12-way: 62.8 g (2.21 oz)	—
	Cable-to-cable, clip locking, panel mount	—
Coding Configurations	180°	—
Polarisation		—
MATERIALS & PLATING		
Contacts	Gold over nickel plating	—
Insulator	Polycarbonate	—
Seal & Grommet	Overmoulded silicone	—
MECHANICAL & ENVIRONMENTAL		
Contact Retention Force	> 70 N	—
Clip Locking Retention Force	>190 N	—
Mating Cycles	> 500 cycles	—
Temperature Range	-55° to 110°C <i>(panel mount version: up to 250°C)</i>	—
Vibration	Category 2 (bogie installation)	EN 61-373
Flammability	I2 F1	NF F 16-101
	Condition 4	NF F 16-102
	HL3 for R22	EN 45545-2
	30s	EN ISO 11925-2
	Category 2	UNI CEI 11170-3
	—	UL94 V-0
Salt Spray	> 96 hours	ASTM-B-117
Fluid Resistance	Cleaning substances, gasoline/oil, acids,	IP66, IP67
ELECTRICAL		
Current Rating	18 A	—
Voltage Rating	230 V <i>(400 V with plastic dummy contacts)</i>	EN 50124-1, pollution degree 3
Dielectric Withstanding Voltage	2725 V	EN 50124-1
Contact Resistance	≤ 2.5 mΩ	—
Insulation Resistance	≥ 5x10 ³ MΩ	—

DIMENSIONS

2, 6, 12-Way Connectors

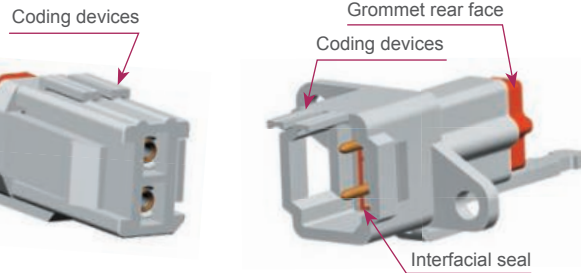
2-WAY PLUGS & RECEPTACLES

Cable Harness, Crimp Termination

FEMALE PLUG

P/N: REP-102-XX-20-XX

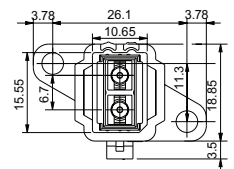
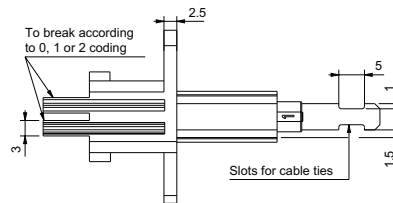
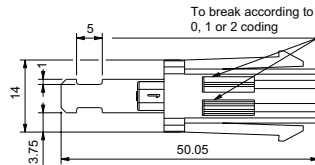
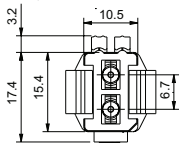
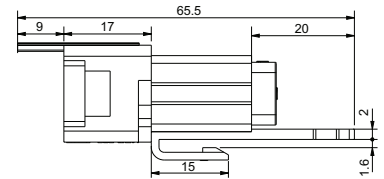
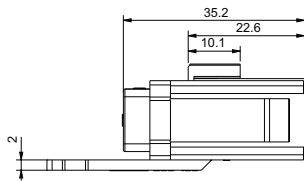
Coding devices



Grommet rear face

Coding devices

Interfacial seal



2-WAY RECEPTACLES

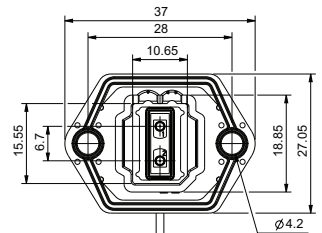
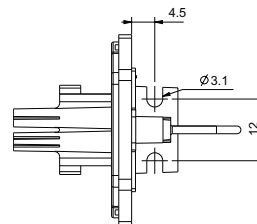
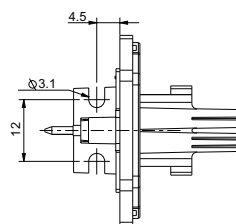
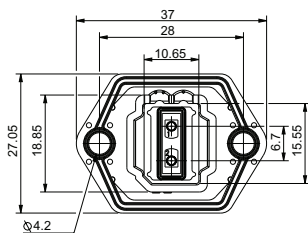
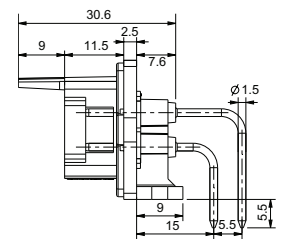
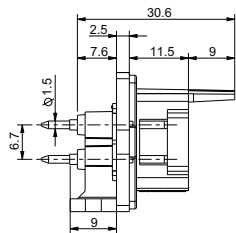
PCB / Panel Mount, Straight & Bent Termination

STRAIGHT MALE RECEPTACLE

P/N: REP-402-XX-30-XX

BENT MALE RECEPTACLE

P/N: REP-402-XX-10-XX

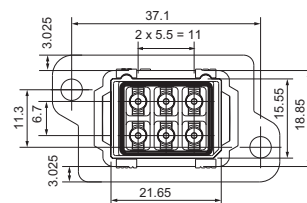
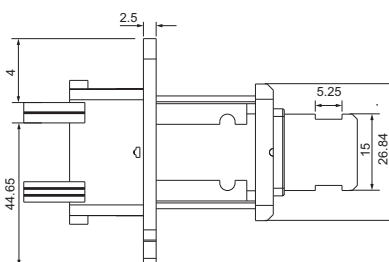
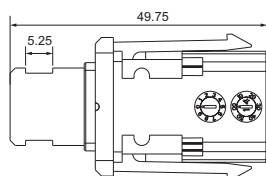
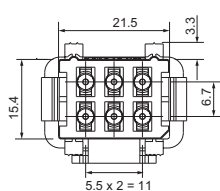
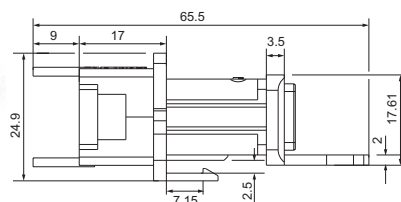
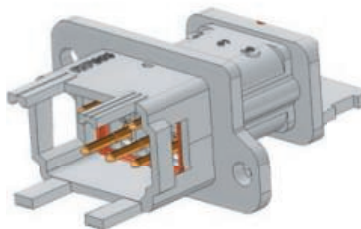
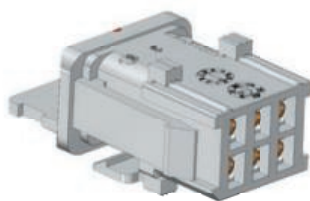
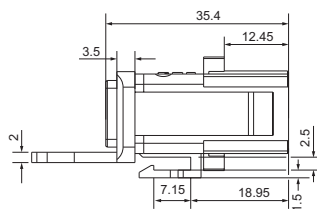


► 6-WAY PLUGS & RECEPTACLES

Cable Harness, Crimp Termination

FEMALE PLUG

P/N: REP-506-XX-20-XX



► 6-WAY RECEPTACLES

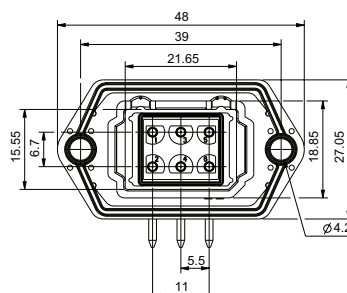
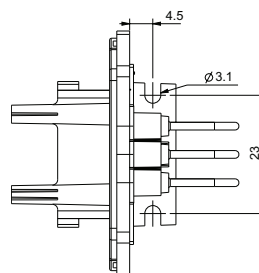
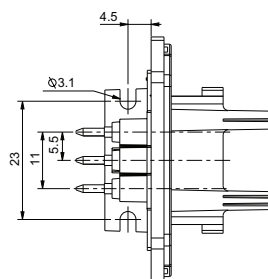
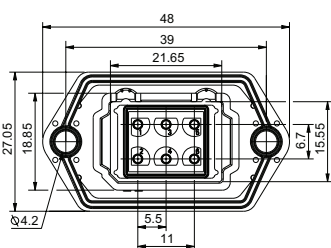
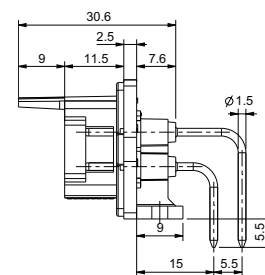
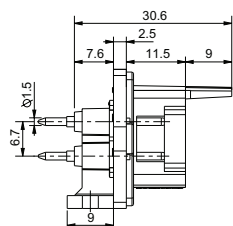
PCB/Panel Mount, Straight & Bent Termination

STRAIGHT MALE RECEPTACLE

P/N: REP-406-XX-30-XX

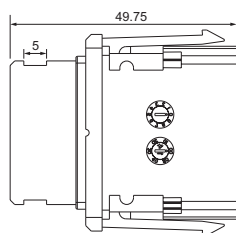
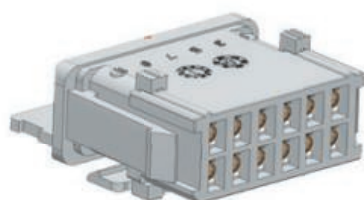
BENT MALE RECEPTACLE

P/N: REP-406-XX-10-XX

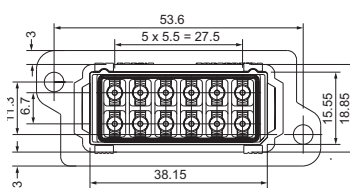
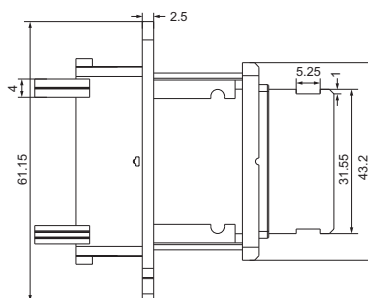
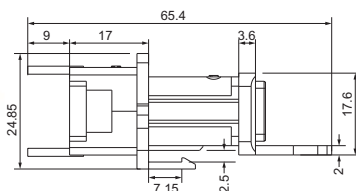


Cable Harness, Crimp Termination

P/N: REP-512-XX-20-XX

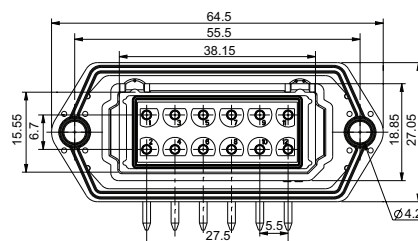
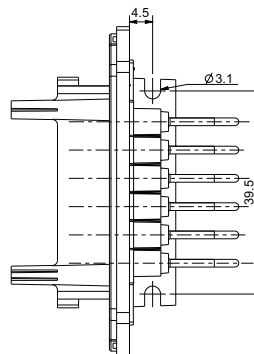
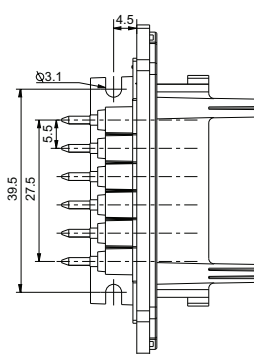
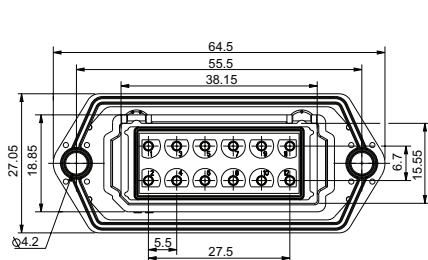
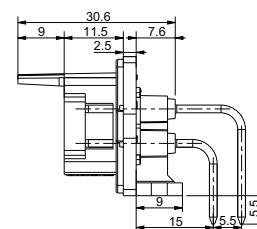
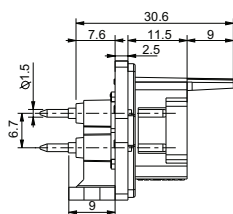


P/N: REP-612-XX-20-XX



PCB/Panel Mount, Straight & Bent Termination

P/N: REP-412-XX-30-XX



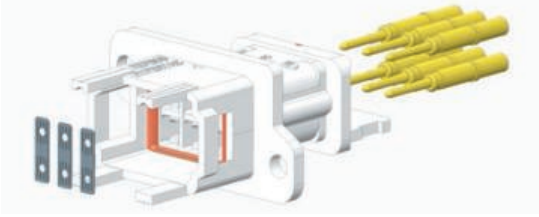
ASSEMBLY

Contacts & Accessories

► ACCESSORIES

CONNECTOR	ACCESSORIES						CONTACT
	Cable Retainer	Panel Seal	Shunt	Panel Mount Bracket	Dummy Contacts ^(a)	Filler Plug	
 2-WAY MALE RECEPTACLE REP 202	—	—	—	 REP 003-02	 REP 002	 REP 001	 0151081-20-1G
 2-WAY FEMALE PLUG REP 102	—	—	—				 0151832-20-N1
 6-WAY MALE RECEPTACLE REP 606	 REP 007-06	 REP 006-06	 REP 901	 REP 003-06			 0151081-20-1G
 6-WAY FEMALE PLUG REP 506		—	—				 0151832-20-N1
 12-WAY MALE RECEPTACLE REP 612	 REP 007-12	 REP 006-12	 REP 901	 REP 003-12			 0151081-20-1G
 12-WAY FEMALE PLUG REP 512		—	—				 0151832-20-N1

► CONTACT & SHUNT ASSEMBLY

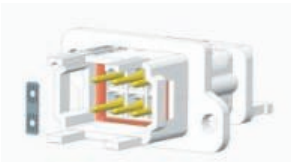


1



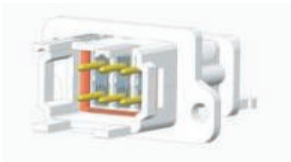
Contact insertion

2



Shunt installation

3



Installation complete

1) Use up to 400V
Dimensions are in mm | All specifications are subject to change without notice

HOW TO ORDER

REP

1



2



3



4



5

1 ▶ **CONNECTOR SERIES** *(Fixed)***2** ▶ **LAYOUT**

102 2-WAY FEMALE PLUG

506 6-WAY FEMALE PLUG

512 12-WAY FEMALE PLUG

402 2-WAY MALE RECEPTACLE FOR PCB MOUNT

412 12-WAY MALE RECEPTACLE FOR PCB MOUNT

202 2-WAY MALE RECEPTACLE

606 6-WAY MALE RECEPTACLE

612 12-WAY MALE RECEPTACLE

406 6-WAY MALE RECEPTACLE FOR PCB MOUNT

3 ▶ **POLARITY**

03 PLUG WITHOUT CONTACT

12 FEMALE PLUG WITH CONTACTS

27 MALE RECEPTACLE WITH TINNED CONTACTS

04 RECEPTACLE WITHOUT CONTACT

23 MALE RECEPTACLE WITH CONTACTS

2B MALE RECEPTACLE WITH RoHS TINNED CONTACTS

4 ▶ **TERMINATION STYLE**

00 WITHOUT CONTACT

10 BENT TERMINATION CONTACT *(For REP 402, 406 & 412)*20 CRIMP CONTACT 24-12 AWG *(For REP 102, 202, 506, 606, 512 & 612)*30 STRAIGHT TERMINATION CONTACT *(For REP 402, 406 & 412)***5** ▶ **ACCESSORIES**

00 WITHOUT ACCESSORY

01 FILLER PLUG *(For REP 102, 202, 506, 606, 512 & 612)*02 PLASTIC DUMMY CONTACT *(For REP 102, 202, 506, 606, 512 & 612)*03 BRACKET FOR PANEL MOUNTING *(For REP 102, 202, 506, 606, 512 & 612)*04 SPACER FOR STRAIGHT TERMINATION CONTACT *(For REP 402, 406 & 412)*07 CABLE RETAINER *(For REP 506, 606, 512 & 612)*09 SHUNT *(For REP 606 & 612)*10 PANEL SEAL *(For REP 606 & 612)*