

# SMP Coaxial Connectors MIL Standard Compliant

SMP Series

Up to 40GHz



## ■ Features

1. Excellent High Frequency performance
2. Easy push-on lock
3. Wide variations
4. MIL Standard compliant (MIL-STD-348B)
5. RoHS2 compliant
6. Halogen-free

## ■ Applications

Optical transmission devices,  
Data transmission measurement,  
Radio communication equipment,  
Measuring instruments etc.

## ■ Functional diagram

### Plug side

#### ■ Straight plug receptacle

SMP-PR(\*\*)-SMT-1



#### ■ Right angle plug receptacle

SMP-LPR(\*\*)-SMT-1



#### ■ Conversion adapter (SMP plug to 2.92mm plug)

SMPP(\*\*)-HKP



### Jack side

#### ■ Jack

SMP-J-SF085



#### ■ Right angle jack

SMP-LJ-SF085



#### ■ Relay adapter (Jack to Jack)

SMP-A-JJ-645



#### ■ Conversion adapter (SMP jack to 2.92mm jack)

SMPJ-HKJ



#### ■ Terminator

SMP-TMJ

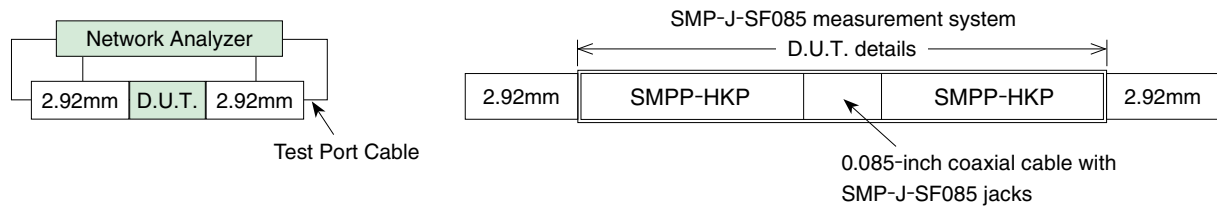


## Product Specifications

| Ratings  | Nominal characteristic impedance  | 50Ω   | Operating Temperature Range | -55°C to +125°C (95% RH or less) |
|--|---|---|-----------------------------|----------------------------------|
|  | Frequency range   | 0 to 40GHz  | Storage Temperature Range   | -55°C to +50°C (95% RH or less)  |
| Items  | Specifications  | Conditions  |                             |                                  |
| 1. Contact resistance                                | Center : Not greater than 6mΩ<br>External : Not greater than 6mΩ  | Measured at 100mA or below  |                             |                                  |
| 2. Insulation resistance                             | Not greater than 1,000MΩ  | Measured at 500V DC   |                             |                                  |
| 3. Withstanding voltage                              | No flashover or breakdown   | 500V AC for 1 minute  |                             |                                  |
| 4. Voltage standing wave ratio                       | ● SMP-J-SF085<br>VSWR : Not greater than 1.3 (0 to 15GHz)<br>VSWR : Not greater than 1.5 (15 to 40GHz)  | ● SMP-PR (**)-SMT<br>VSWR : Not greater than 1.5 (0 to 30GHz)   |                             |                                  |
| 5. Holding power of female contact                   | Not less than 0.2N  | Measured with φ0.35 pin gauge   |                             |                                  |
| 6. Mating Cycles                                     | Contact resistance at center : Not greater than 12mΩ<br>External : Not greater than 12mΩ<br>No broken, cracked, or loose parts  | 500 cycles  |                             |                                  |
| 7. Moisture resistance of temperature/humidity cycle | Insulation resistance : Not less than 100MΩ (in a high humidity environment)<br>Insulation resistance : Not less than 1,000MΩ (in a dry environment)<br>No broken, cracked or loose parts | Left for 10 cycles (240 hours) in an environment with the temperature ranging from -10 to 65°C and the humidity ranging from 90 to 98%.           |                             |                                  |
| 8. Temperature cycle                                 | No broken, cracked or loose parts   | 5 cycles of the following series of test condition :<br>Temperature : -65°C → - → +125°C → -<br>Time period : 30 min. → 3 min. → 30 min. → 3 min. |                             |                                  |
| 9. Salt spray  | No considerable corrosion   | Continuous 48 hour cycle in 5% salt water solution  |                             |                                  |

\*Measurement of voltage standing wave ratio (VSWR)

The specified values of VSWR noted above, are taken with the test set up shown in the figure below:



## Materials / Finish

| Part      | Materials       | Finish  |
|-----------|-----------------|---|
| Shell     | Jack            | Beryllium copper<br>Gold plated                   |
|           | Plug            | Brass, Stainless steel<br>Gold plated, Passivated |
| Contact   | Male contact    | Phosphor bronze<br>Gold plated                    |
|           | Female contact  | Beryllium copper<br>Gold plated                   |
| Insulator | LCP, PTFE resin | —   |

## Product Number Structure

Refer to the below chart of the product number when determining the product specifications.  
Please select from the product numbers listed below when placing orders.

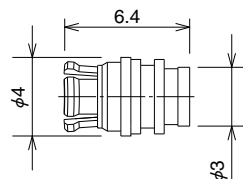
**SMP** - [ ] - [ ]

①      ②      ③

|  |
|--|
| ① Series name : SMP  |
| ② Connector type<br>J : Straight jack<br>LJ : Right angle jack<br>PR : Straight plug receptacle<br>LPR : Right angle plug receptacle<br>A-JJ : Relay adapter |
| ③ Applicable cable<br>SF085 : 0.085-inch coaxial cable<br>SMT : PCB surface mount type<br>645 : 6.45mm   |

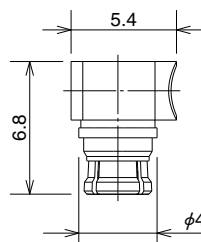
\*Please contact Hirose for cable assembly specifications.

■ Straight jack (0 to 40GHz)



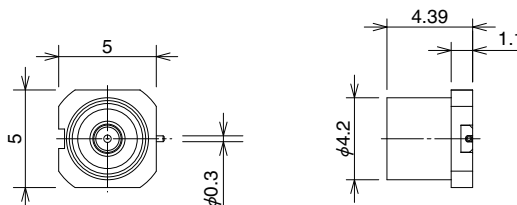
| Part No.    | HRS No.    |
|-------------|------------|
| SMP-J-SF085 | 338-1100-0 |

■ Right angle jack (0 to 30GHz)



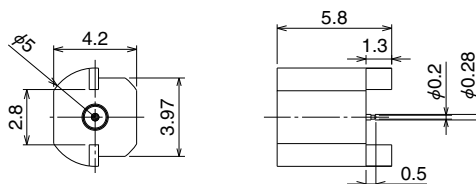
| Part No.     | HRS No.    |
|--------------|------------|
| SMP-LJ-SF085 | 338-1101-0 |

■ Straight plug receptacle (0 to 30GHz)



| Part No.         | HRS No.    |
|------------------|------------|
| SMP-PR(FD)-SMT-1 | 338-1102-0 |
| SMP-PR(LD)-SMT-1 | 338-1103-0 |
| SMP-PR(SB)-SMT-1 | 338-1104-0 |

■ Right angle plug receptacle (0 to 30GHz)

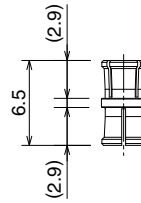


| Part No.          | HRS No.    |
|-------------------|------------|
| SMP-LPR(FD)-SMT-1 | 338-1105-0 |
| SMP-LPR(LD)-SMT-1 | 338-1107-0 |
| SMP-LPR(SB)-SMT-1 | 338-1108-0 |

Note : Insertion / Extraction Force  
 FD : FULL DETENT  
 LD : LIMITED DETENT  
 SB : SMOOTH BORE

Jun. 1. 2020 Copyright 2020 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

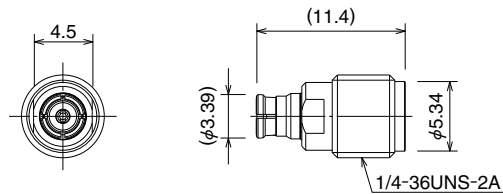
■ Relay adapter (Jack to Jack) (0 to 40GHz)



| Part No.     | HRS No.    |
|--------------|------------|
| SMP-A-JJ-645 | 338-1106-0 |

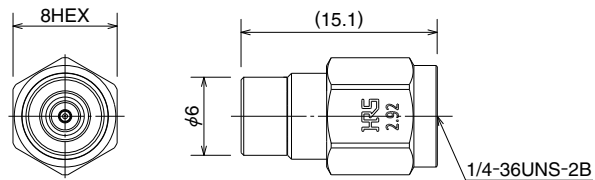
■ Conversion adapter

● SMP jack to 2.92mm jack (0 to 40GHz)



| Part No. | HRS No.    |
|----------|------------|
| SMPJ-HKJ | 311-0013-0 |

● SMP plug to 2.92mm plug (0 to 40GHz)

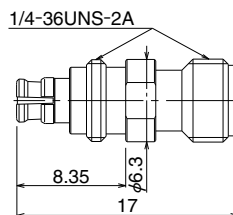


| Part No.     | HRS No.    |
|--------------|------------|
| SMPP(FD)-HKP | 311-0199-0 |
| SMPP(SB)-HKP | 311-1001-0 |

Note : Insertion / Extraction Force  
 FD : FULL DETENT  
 LD : LIMITED DETENT  
 SB : SMOOTH BORE

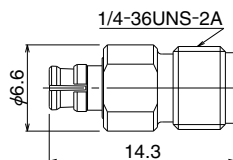
Jun. 1. 2020 Copyright 2020 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

●SMA conversion adapter launcher type (SMP jack to SMA jack) (0 to 18GHz)



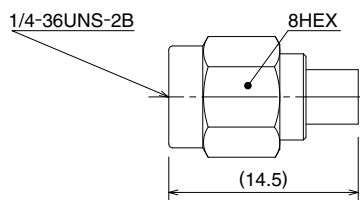
| Part No.          | HRS No.    |
|-------------------|------------|
| HRMJ-SMPJ-BPA-18G | 311-0001-0 |

●SMA conversion adapter (SMP jack to SMA jack) (0 to 18GHz)



| Part No.      | HRS No.    |
|---------------|------------|
| HRMJ-SMPJ-18G | 311-0002-0 |

●SMA conversion adapter (SMP plug to SMA plug) (0 to 18GHz)



| Part No.      | HRS No.    |
|---------------|------------|
| HRMP-SMPP-18G | 311-0006-0 |

■ Nonreflective terminator  
 ■ Product Specifications

|         |                                  |                  |                             |                |
|---------|----------------------------------|------------------|-----------------------------|----------------|
| Ratings | Nominal characteristic impedance | 50Ω              | Operating Temperature Range | -40°C to +85°C |
|         | Rated frequency                  | DC to 30GHz      |                             |                |
|         | Power                            | 0.25W CW (+65°C) | Operating relative humidity | 95% RH or less |

■ Materials / Finish

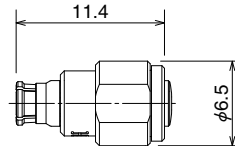
| Part              | Materials                                      | Finish      |
|-------------------|--|-------------|
| Shell             | Body : Brass<br>Spring Part : Beryllium copper | Gold plated |
| Insulator         | PTFE   | —           |
| Female contact    | Beryllium copper                               | Gold plated |
| Resistive element | Metal film                                     | —           |

■ Product Number Structure

**SMP - TM J**

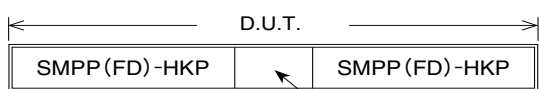
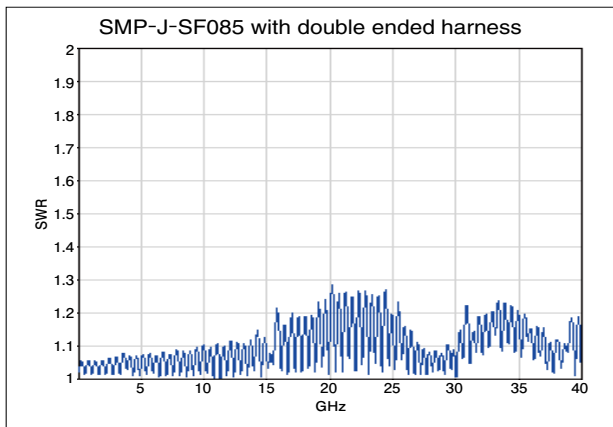
①                      ②                      ③

|                  |                           |
|------------------|---------------------------|
| ① Series name    | SMP                       |
| ② TM             | Non-reflective terminator |
| ③ Connector type | J : Jack type             |

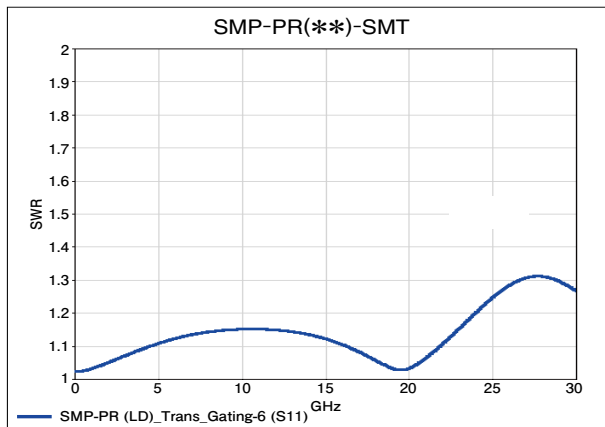


| Part No. | HRS No.    | Voltage standing wave ratio (V.S.W.R.)(max) |             |             |
|----------|------------|---|-------------|-------------|
|          |            | DC to 15GHz                                 | 15 to 25GHz | 25 to 30GHz |
| SMP-TMJ  | 353-0024-0 | 1.15  | 1.2         | 1.25        |

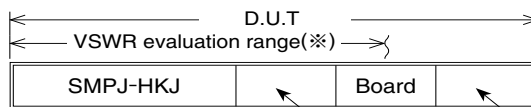
## ◆ Frequency characteristics (TYPICAL)



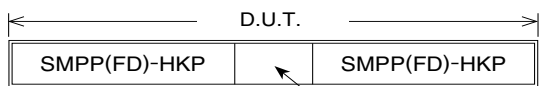
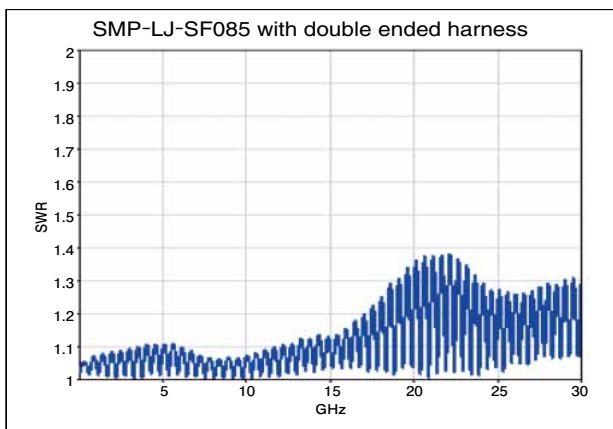
SMP-J-SF085 with double ended harness



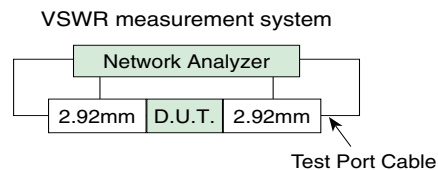
※This data does not include part of micro strip line and 2.92 end launch connector installed on test board by using gating function of vector network analyzer.

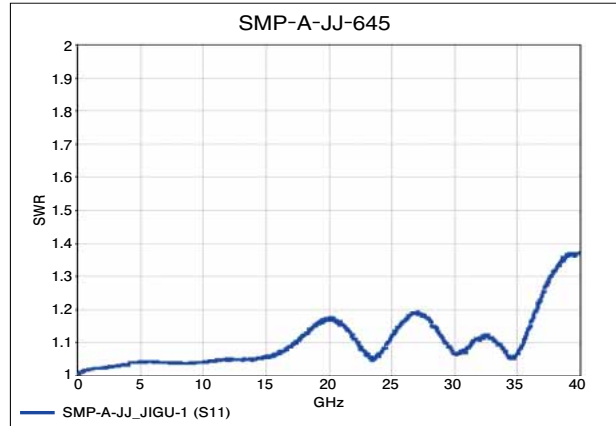
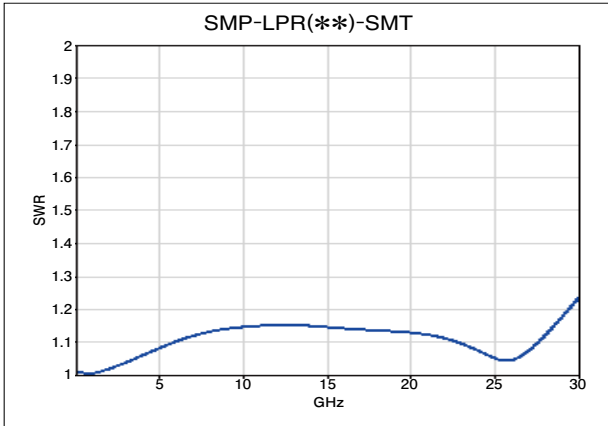


SMP-PR(\*\*)-SMT 2.92 End Launch

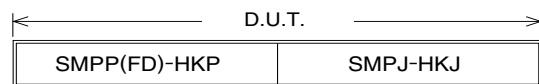
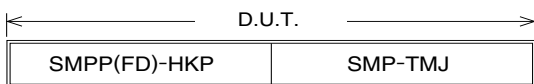
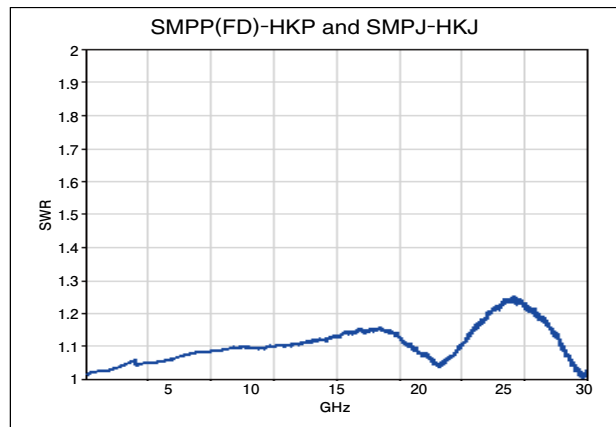
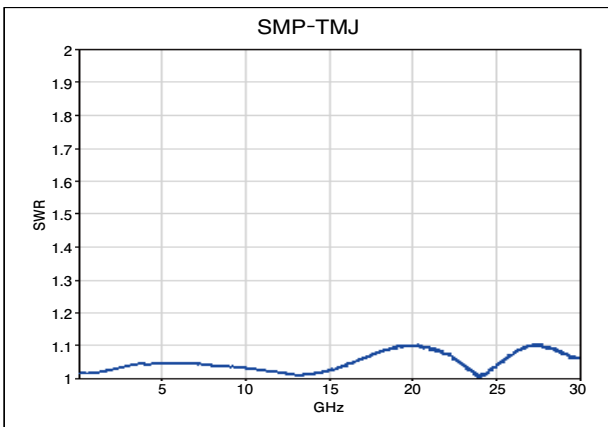
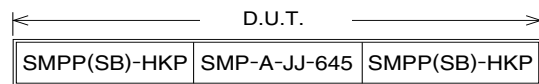
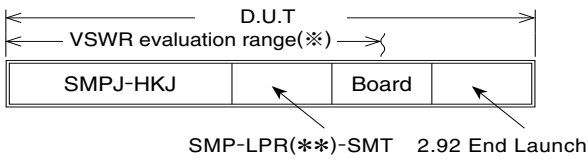


SMP-LJ-SF085 with double ended harness



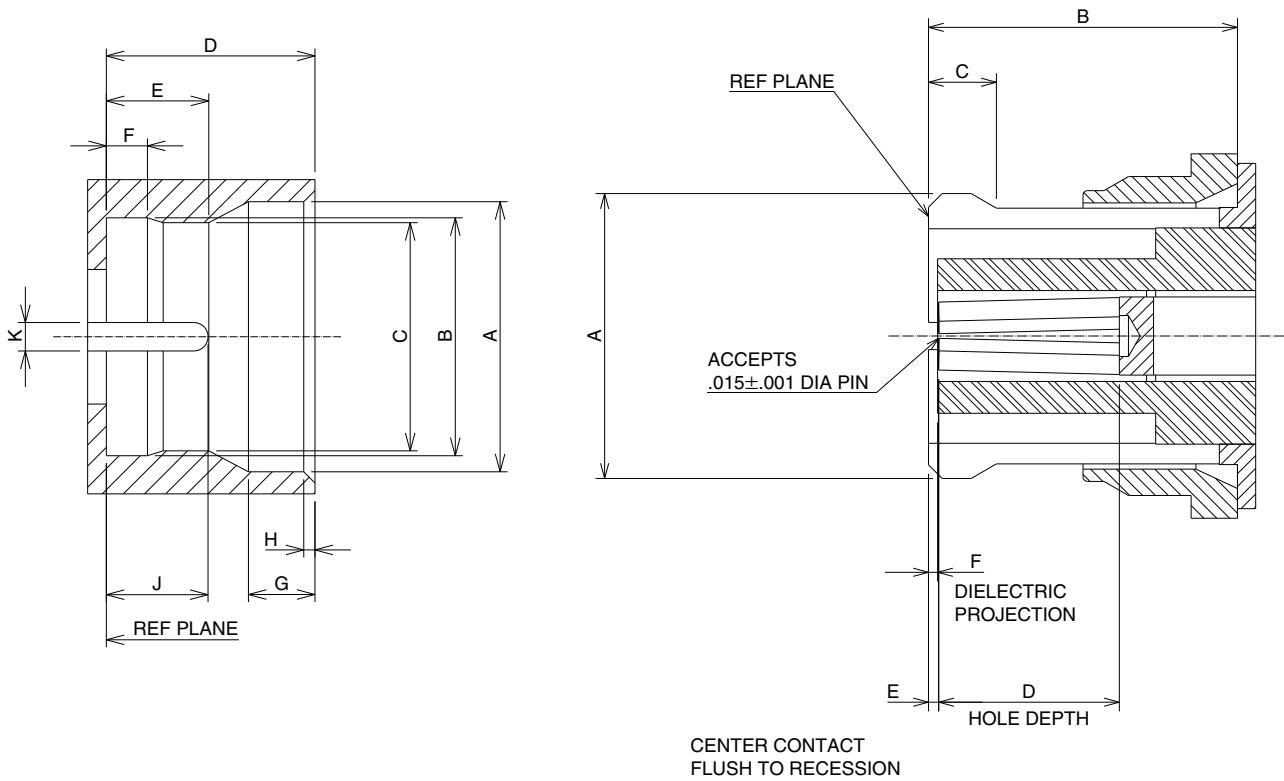


※ This data does not include part of micro strip line and 2.92 end launch connector installed on test board by using gating function of vector network analyzer.





◆ Mated dimensions (FD, LD, SB)



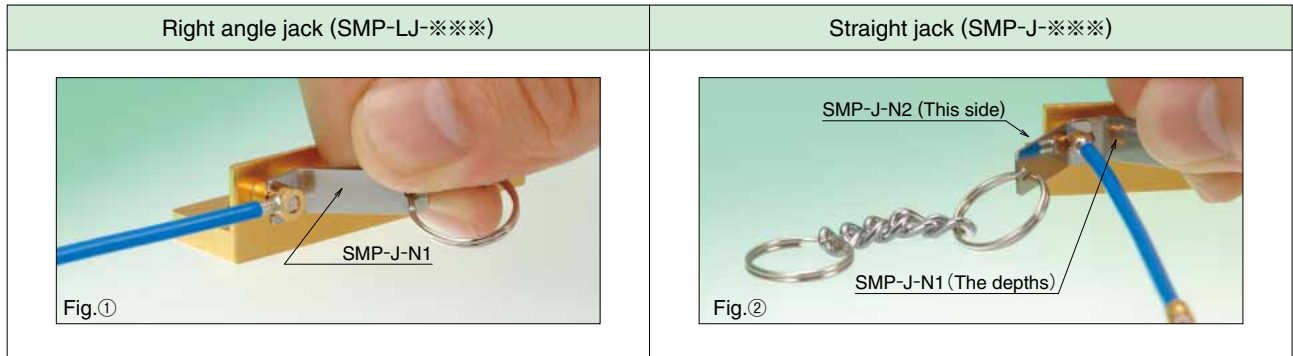
|   | PLUG         |              |                |              |             |             | JACK       |             |
|---|--------------|--------------|----------------|--------------|-------------|-------------|------------|-------------|
|   | Inches(mm)   |              |                |              |             |             |            |             |
|   | Full detent  |              | Limited detent |              | Smooth bore |             | min        | max         |
|   | min          | max          | min            | max          | min         | max         |            |             |
| A | φ.139(3.53)  | φ.145(3.68)  | φ.139(3.53)    | φ.145(3.68)  | φ.139(3.53) | φ.145(3.68) | —          | φ.135(3.43) |
| B | φ.124(3.15)  | φ.126(3.20)  | φ.124(3.15)    | φ.126(3.20)  | φ.123(3.12) | φ.127(3.23) | .112(2.84) | —           |
| C | φ.114(2.90)  | φ.118(3.00)  | φ.118(3.00)    | φ.122(3.10)  | —           | —           | .018(0.46) | .025(0.64)  |
| D | .108(2.74)   | .112(2.84)   | .108(2.74)     | .112(2.84)   | .108(2.74)  | .112(2.84)  | .070(1.78) | —           |
| E | .051(1.30)   | .057(1.45)   | .054(1.37)     | .060(1.52)   | .059(1.50)  | .065(1.65)  | .008(0.20) |             |
| F | .0205(0.521) | .0235(0.597) | .0205(0.521)   | .0235(0.597) | —           | —           | .000(0.00) |             |
| G | .033(0.84)   | .037(0.94)   | .033(0.84)     | .037(0.94)   | .033(0.84)  | .037(0.94)  | —          | —           |
| H | .003(0.08)   | .008(0.02)   | .003(0.08)     | .008(0.02)   | .003(0.08)  | .008(0.02)  | —          | —           |
| J | .045(1.14)   | .055(1.40)   | .045(1.14)     | .055(1.40)   | .045(1.14)  | .055(1.40)  | —          | —           |
| K | .014(0.36)   | .016(0.41)   | .014(0.36)     | .016(0.41)   | .014(0.36)  | .016(0.41)  | —          | —           |

Note : Insertion / Extraction Force  
 FD : FULL DETENT  
 LD : LIMITED DETENT  
 SB : SMOOTH BORE

## ◆ Connector extraction tools

Extraction tools have been released for jack products of SMP series.

| Part No.   | Applicable tool | HRS No.    | Reference |
|------------|-----------------|------------|-----------|
| SMP-LJ-*** | SMP-J-N1        | 350-0014-0 | Fig. ①    |
| SMP-J-***  | SMP-J-N1        | 350-0014-0 | Fig. ②    |
|            | SMP-J-N2        | 350-0015-0 |           |



Note 1 : The tools can release the lock. After releasing the lock, please hold connector body and pull out.

Note 2 : These extraction tools are designed for SMP series only.

MEMO :

Area with horizontal dashed lines for writing.

**USA:**

**HIROSE ELECTRIC (U.S.A.), INC. HEADQUARTERS CHICAGO OFFICE**  
2300 Warrenville Road, Suite 150,  
Downers Grove, IL 60515  
Phone : +1-630-282-6700  
<http://www.hirose.com/us/>

**USA:**

**HIROSE ELECTRIC (U.S.A.), INC. BOSTON OFFICE**  
300 Brickstone Square Suite 201,  
Andover, MA 01810  
Phone : +1-978-662-5255

**GERMANY:**

**HIROSE ELECTRIC EUROPE B.V. NUREMBERG OFFICE**  
Neumeyerstrasse 22-26, 90411 Nurnberg  
Phone : +49-911 32 68 89 63  
Fax : +49-911 32 68 89 69  
<http://www.hirose.com/eu/>

**UNITED KINGDOM:**

**HIROSE ELECTRIC EUROPE BV (UK BRANCH)**  
4 Newton Court, Kelvin Drive, Knowlhill,  
Milton Keynes, MK5 8NH  
Phone : +44-1908 202050  
Fax : +44-1908 202058  
<http://www.hirose.com/eu/>

**CHINA:**

**HIROSE ELECTRIC (CHINA) CO., LTD. SHENZHEN BRANCH**  
Room 09-13, 19/F, Office Tower Shun Hing Square, Di Wang Commercial Centre,  
5002 Shen Nan Dong Road, Shenzhen City, Guangdong Province, 518008  
Phone : +86-755-8207-0851  
Fax : +86-755-8207-0873  
<http://www.hirose.com/cn/>

**KOREA:**

**HIROSE KOREA CO.,LTD.**  
143, Gongdan 1-daero, Siheung-si,  
Gyeonggi-do, 15084, Korea  
Phone : +82-31-496-7000  
Fax : +82-31-496-7100  
<http://www.hirose.co.kr/>

**INDIA:**

**HIROSE ELECTRIC SINGAPORE PTE. LTD. BANGALORE LIAISON OFFICE**  
Unit No-403, 4th Floor, No-84, Barton Centre, Mahatma  
Gandhi (MG) Road, Bangalore 560 001, Karnataka, India  
Phone : +91-80-4120 1907  
Fax : +91-80-4120 9908  
<http://www.hirose.com/sg/>

**USA:**

**HIROSE ELECTRIC (U.S.A.), INC. SAN JOSE OFFICE**  
2841 Junction Ave, Suite 200  
San Jose, CA. 95134  
Phone : +1-408-253-9640  
Fax : +1-408-253-9641  
<http://www.hirose.com/us/>

**THE NETHERLANDS:**

**HIROSE ELECTRIC EUROPE B.V.**  
Hogehillweg #8 1101 CC Amsterdam Z-0  
Phone : +31-20-6557460  
Fax : +31-20-6557469  
<http://www.hirose.com/eu/>

**GERMANY:**

**HIROSE ELECTRIC EUROPE B.V. HANOVER OFFICE**  
Bayernstr. 3, Haus C 30855 Langenhagen, Germany  
Phone : +49-511 97 82 61 30  
Fax : +49-511 97 82 61 35  
<http://www.hirose.com/eu/>

**CHINA:**

**HIROSE ELECTRIC (CHINA) CO., LTD. (SHANGHAI, HEADQUARTERS)**  
18, Enterprise Center Tower 2, 209# Gong He  
Road, Jing'an District, Shanghai, CHINA 200070  
Phone : +86-21-6391-3355  
Fax : +86-21-6391-3335  
<http://www.hirose.com/cn/>

**HONG KONG:**

**HIROSE ELECTRIC HONGKONG TRADING CO., LTD.**  
Room 1001, West Wing, Tsim Sha Tsui Centre, 66  
Mody Road, Tsim Sha Tsui East, Kowloon, Hong Kong  
Phone : +852-2803-5338  
Fax : +852-2591-6560  
<http://www.hirose.com/hk/>

**SINGAPORE:**

**HIROSE ELECTRIC SINGAPORE PTE. LTD.**  
03, Anson Road, #20-01, Springleaf Tower,  
Singapore 079909  
Phone : +65-6324-6113  
Fax : +65-6324-6123  
<http://www.hirose.com/sg/>

**MALAYSIA:**

**PENANG REPRESENTATIVE OFFICE**  
73-3-1, Ideal@The One, Jalan Mahsuri, Bayan  
Lepas Penang, 11950, Malaysia  
Phone : +604-648-5536  
<http://www.hirose.com/sg/>

**USA:**

**HIROSE ELECTRIC (U.S.A.), INC. DETROIT OFFICE (AUTOMOTIVE)**  
17197 N. Laurel Park Drive, Suite 253,  
Livonia, MI 48152  
Phone : +1-734-542-9963  
Fax : +1-734-542-9964  
<http://www.hirose.com/us/>

**GERMANY:**

**HIROSE ELECTRIC EUROPE B.V. GERMAN BRANCH**  
Schoenbergstr. 20, 73760 ostfildern  
Phone : +49-711-456002-1  
Fax : +49-711-456002-299  
<http://www.hirose.com/eu/>

**FRANCE:**

**HIROSE ELECTRIC EUROPE B.V. PARIS OFFICE**  
130 Avenue Joseph Kessel, Bat E, 78960  
Voisins le Bretonneux, France  
Phone : +33-1-85764886  
Fax : +33-1-85764823  
<http://www.hirose.com/eu/>

**CHINA:**

**HIROSE ELECTRIC (CHINA) CO.,LTD. BEIJING BRANCH**  
A1001, Ocean International Center, Building 56# East 4th  
Ring Middle Road, ChaoYang District, Beijing, 100025  
Phone : +86-10-5165-9332  
Fax : +86-10-5908-1381  
<http://www.hirose.com/cn/>

**TAIWAN:**

**HIROSE ELECTRIC TAIWAN CO., LTD.**  
103 8F, No.87, Zhengzhou Rd., Taipei  
Phone : +886-2-2555-7377  
Fax : +886-2-2555-7355  
<http://www.hirose.com/tw/>

**INDIA:**

**HIROSE ELECTRIC SINGAPORE PTE. LTD. DELHI LIAISON OFFICE**  
Office NO.552, Regus-Green Boulevard, Level5, Tower C,  
Sec62, Plot B-9A, Block B, Noida, 201301, Uttar Pradesh, India  
Phone : +91-12-660-8018  
Fax : +91-120-4804949  
<http://www.hirose.com/sg/>

**THAILAND:**

**BANGKOK OFFICE (REPRESENTATIVE OFFICE)**  
Unit 4703, 47th FL., 1 Empire Tower, South Sathorn  
Road, Yannawa, Sathorn, Bangkok 10120 Thailand  
Phone : +66-2-686-1255  
Fax : +66-2-686-3433  
<http://www.hirose.com/sg/>

**HIROSE ELECTRIC CO.,LTD.**

2-6-3,Nakagawa Chuoh,Tsuzuki-Ku,Yokohama-Shi 224-8540,JAPAN  
TEL: +81-45-620-3526 Fax: +81-45-591-3726  
<http://www.hirose.com>  
<http://www.hirose-connectors.com>