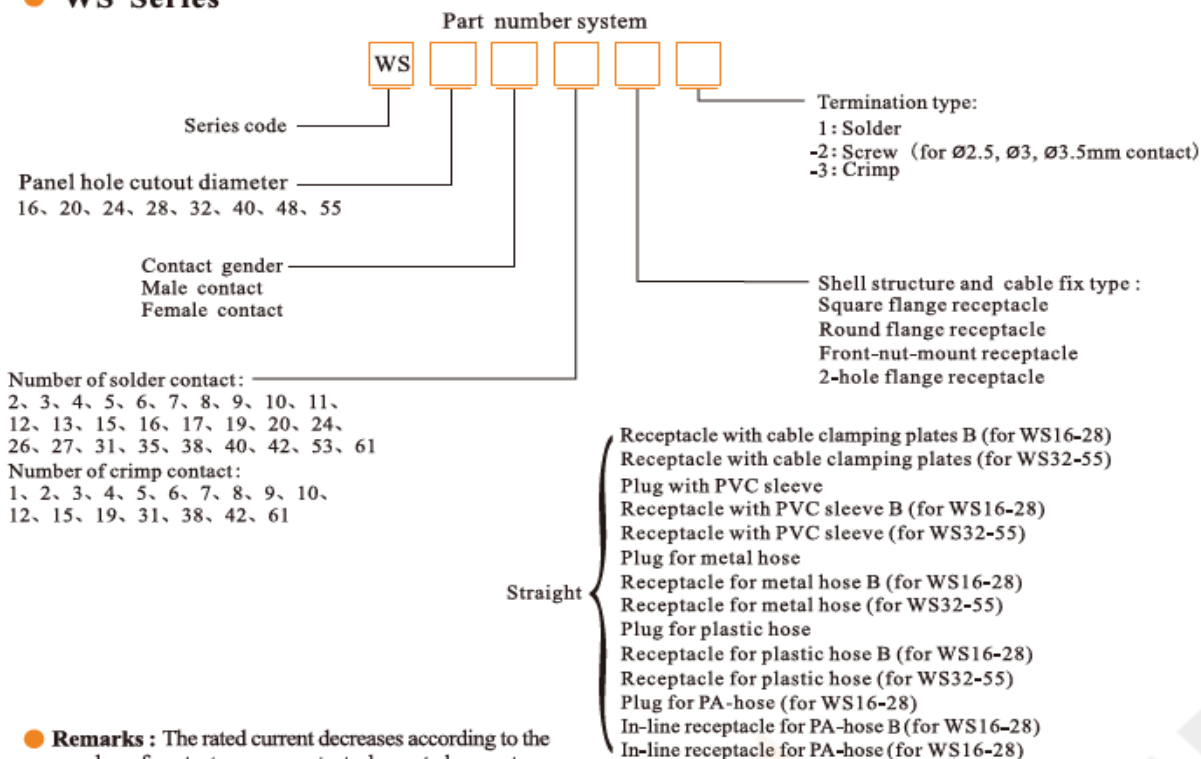




### ● WS Series



● **Remarks :** The rated current decreases according to the number of contacts, more contacts, less rated current.

Number of contact	1-3	4-10	11-20	21-30	31-40	41-50	51-61
Rated current decrease rate	0	10	20	30	40	50	60

### Material and spec

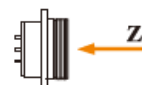
Coupling	Threaded	
Shell material	Zinc alloy with chrome plating	
Insert material	PPS, max temperature 260 °C	
Contact material	Brass with gold plating	
Termination	Solder: Ø1, Ø1.5, Ø2.5, Ø3.5, Ø5.5mm; Screw: Ø2.5, Ø3, Ø3.5mm;	Crimp: Ø1, Ø1.5, Ø2.5, Ø3.5, Ø5.5, Ø10mm
Mating cycle	500	
Temperature range	-40°C ~ +85°C	

★ Solder contact spec see page P19

★ Crimp contact spec see P20

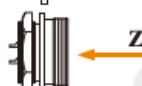
**WS Series Mating diagram**

◆ Square flange receptacle



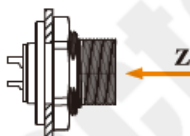
Z

◆ Round flange receptacle



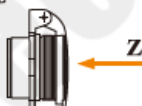
ZM

◆ Front-nut-mount receptacle



ZMQ

◆ 2-hole flange receptacle with cap



ZG

◆ In-line receptacle with cable clamping plates



ZYB(16-28)  
ZY(32-55)

◆ In-line receptacle with PVC sleeve



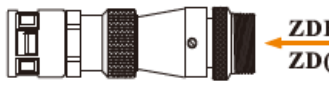
ZQB(16-28)  
ZQ(32-55)

◆ In-line receptacle for metal hose



ZPB(16-28)  
ZP(32-55)

◆ In-line receptacle for plastic-hose



ZDB(16-28)  
ZD(32-55)

◆ In-line receptacle for PA-hose



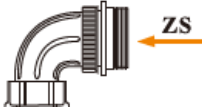
ZHB(16-28)  
ZH(16-28)

◆ In-line receptacle with angled back shell for metal-hose



ZR

◆ In-line receptacle with angled back shell and cable clamping plates



ZS

◆ In-line receptacle with angled back shell for plastic-hose



ZC



◆ Plastic receptacle cap

TQ



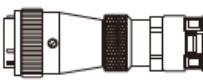
◆ Plug with PVC sleeve

TP



◆ Plug for metal-hose

TD



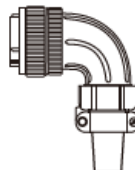
◆ Plug for plastic-hose

TH(16-28)



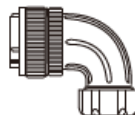
◆ Plug for PA-hose

TS



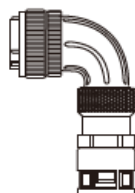
◆ Plug with angled back shell and cable clamping plates

TR



◆ Plug with angled back shell for metal-hose

TC



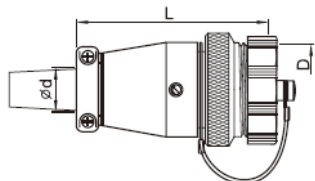
◆ Plug with angled back shell for plastic-hose

★ Each side can be male or female contact  
★ Solder contact spec see page P19

★ Screw contact spec see P21  
★ Crimp contact spec see P20



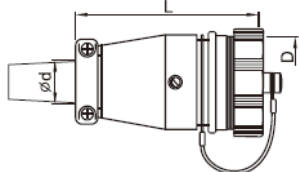
● In-line receptacle with PVC sleeve B: ZQB



Dimension(mm)	WS16	WS20	WS24	WS28
D	M18X1	M22X1	M26X1	M30X1
L	44.5	49	53	55
$\phi d$ max	10.5	13	14	17.5

Optional cap size see P101  
PVC sleeve dimension see P101

● In-line receptacle with PVC sleeve: ZQ



Dimension(mm)	WS32	WS40	WS48	WS55
D	M35X1.5	M44X1.5	M52X1.5	M59X1.5
L	70.5	76.5	85	97.5
$\phi d$ max	21.5	26	26.5	32

Optional cap size see P101

### Solder contact spec

WS16, WF16, WY16	2	3	4	2B	3B	4B	5	7	9	10
Male contact face view										
Rated current (A)	10	10	5	15	15	15	5	5	5	5
Contact diameter(mm)	∅1.5X2	∅1.5X3	∅1X4	∅2X2	∅2X3	∅2X4	∅1X5	∅1X7	∅1X9	∅1X10
Rated voltage (AC.V)	500	500	500	500	500	500	500	400	400	400
Test voltage(AC.V) 1 min	1500	1500	1500	1500	1500	1500	1500	1200	1200	1200
Contact resistance(mΩ)	2.5	2.5	5	2.5	2.5	2.5	5	5	5	5
Insulation resistance (MΩ)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Wire size(mm <sup>2</sup> /AWG)	≤2/14	≤2/14	≤0.75/18	≤2/14	≤2/14	≤2/14	≤0.75/18	≤0.75/18	≤0.75/18	≤0.75/18

WS20, WF20, WY20	2	3	4	5	6	6B	7	8	9	12	15
Male contact face view											
Rated current (A)	25	25	25	10	5 25	5 30	10	10	5	5	5
Contact diameter(mm)	∅2.5X2	∅2.5X3	∅2.5X4	∅1.5X5	∅1X2 ∅2.5X4	∅1X4 ∅3X2	∅1.5X7	∅1.5X8	∅1X9	∅1X12	∅1X15
Rated voltage (AC.V)	500	500	500	500	500	500	500	500	400	400	400
Test voltage(AC.V) 1 min	1500	1500	1500	1500	1500	1500	1500	1500	1200	1200	1200
Contact resistance(mΩ)	1	1	1	2.5	5 1	5 1	2.5	2.5	5	5	5
Insulation resistance (MΩ)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Wire size(mm <sup>2</sup> /AWG)	≤4/11	≤4/11	≤4/11	≤2/14	≤0.75/18 ≤4/11	≤0.75/18 ≤4/11	≤2/14	≤2/14	≤0.75/18	≤0.75/18	≤0.75/18

WS24, WF24, WY24	2	3	4	9	10	12	12B	19
Male contact face view								
Rated current (A)	25	25	25	5 25	10	10	5 30	5
Contact diameter(mm)	∅2.5X2	∅2.5X3	∅2.5X4	∅1X5 ∅2.5X4	∅1.5X10	∅1.5X12	∅1X9 ∅3X3	∅1X19
Rated voltage (AC.V)	500	500	500	500	500	500	500	400
Test voltage(AC.V) 1 min	1500	1500	1500	1500	1500	1500	1500	1200
Contact resistance(mΩ)	1	1	1	5 1	2.5	2.5	5 1	5
Insulation resistance (MΩ)	2000	2000	2000	2000	2000	2000	2000	2000
Wire size(mm <sup>2</sup> /AWG)	≤4/11	≤4/11	≤4/11	≤0.75/18 ≤4/11	≤2/14	≤2/14	≤0.75/18 ≤4/11	≤0.75/18

WS28, WF28, WY28	2	3	4	7	8	8B	9	10	10B	12	16	17	20	24	26	35
Male contact face view																
Rated current (A)	50	50	25	25	25	60, 5	25, 5	25	10	10	10	10	5	5	5	5
Contact diameter(mm)	∅3.5X2	∅3.5X3	∅2.5X4	∅2.5X7	∅2.5X8	∅5X2 ∅1X6	∅2.5X4 ∅1X5	∅2.5X10	∅1.5X10	∅1.5X12	∅1.5X16	∅1.5X17	∅1X20	∅1X24	∅1X26	∅1X35
Rated voltage (AC.V)	500	500	500	500	500	500 400	500	500	500	500	500	500	400	400	400	400
Test voltage(AC.V) 1 min	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1200	1200	1200	1200
Contact resistance(mΩ)	0.5	0.5	1	1	1	5, 0.5	1, 5	1	2.5	2.5	2.5	2.5	5	5	5	5
Insulation resistance (MΩ)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Wire size(mm <sup>2</sup> /AWG)	≤10/7	≤10/7	≤4/11	≤4/11	≤4/11	≤16/5 ≤0.75/18	≤4/11 ≤0.75/18	≤4/11	≤2/14	≤2/14	≤2/14	≤2/14	≤2/14	≤2/14	≤0.75/18	≤0.75/18

### Solder contact spec

WS32, WF32, WY32	4	6	8	8B	10	10B	11	12	13	19
Male contact face view										
Rated current (A)	50	10 50	10 50	10 50	10 25	25	25	25	10 25	10
Contact diameter(mm)	∅3.5X4	∅1.5X2 ∅3.5X4	∅1.5X5 ∅3.5X3	∅1.5X4 ∅3.5X4	∅1.5X5 ∅2.5X5	∅2.5X10	∅2.5X11	∅2.5X12	∅1.5X9 ∅2.5X4	∅1.5X19
Rated voltage (AC.V)	500V	500V	500V	500V	500V	500V	500V	500V	500V	500V
Test voltage(AC.V) 1 min	1500V	1500V	1500V	1500V	1500V	1500V	1500V	1500V	1500V	1500V
Contact resistance(mΩ)	0.5	2.5 0.5	2.5 0.5	2.5 0.5	2.5 1	1	1	1	2.5 1	2.5
Insulation resistance (MΩ)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Wire size (mm <sup>2</sup> /AWG)	≤10/7	≤2/14 ≤10/7	≤2/14 ≤10/7	≤2/14 ≤10/7	≤2/14 ≤4/11	≤4/11	≤4/11	≤4/11	≤2/14 ≤4/11	≤2/14

WS40, WF40, WY40	5	9	15	26	31	52
Male contact face view						
Rated current (A)	50	25 50	10	10 25	10	5
Contact diameter(mm)	∅3.5X5	∅2.5X5 ∅3.5X4	∅1.5X15	∅1.5X22 ∅2.5X4	∅1.5X31	∅1X52
Rated voltage (AC.V)	500	500	500	500	500	400
Test voltage(AC.V) 1 min	1500	1500	1500	1500	1500	1200
Contact resistance(mΩ)	0.5	1 0.5	2.5	2.5, 1	2.5	5
Insulation resistance (MΩ)	2000	2000	2000	2000	2000	2000
Wire size (mm <sup>2</sup> /AWG)	≤10/7	≤4/11 ≤10/7	≤2/14	≤2/14 ≤4/11	≤2/14	≤0.75/18

WS48, WF48, WY48	5	7	20	27	38	42
Male contact face view						
Rated current (A)	100	50	25	10 25	10 25	10
Contact diameter(mm)	∅5.5X5	∅3.5X7	∅2.5X20	∅1.5X26 ∅2.5X1	∅1.5X33 ∅2.5X5	∅1.5X42
Rated voltage (AC.V)	500	500	500	500	500	500
Test voltage(AC.V) 1 min	1500	1500	1500	1500	1500	1500
Contact resistance(mΩ)	0.3	0.5	1	2.5, 1	2.5, 1	2.5
Insulation resistance (MΩ)	2000	2000	2000	2000	2000	2000
Wire size (mm <sup>2</sup> /AWG)	≤25/3	≤10/7	≤4/11	≤2/14 ≤4/11	≤2/14 ≤4/11	≤2/14

WS55, WF55, WY55	4	7	40	53	61
Male contact face view					
Rated current (A)	50 150	50 100	10 25	10 25	10
Contact diameter(mm)	∅3.5X1 ∅10X3	∅3.5X1 ∅5.5X6	∅1.5X25 ∅2.5X15	∅1.5X48 ∅2.5X5	∅1.5X61
Rated voltage (AC.V)	500	500	500	500	500
Test voltage(AC.V) 1 min	1500	1500	1500	1500	1500
Contact resistance(mΩ)	0.5 0.2	0.5 0.3	2.5 1	2.5 1	2.5
Insulation resistance (MΩ)	2000	2000	2000	2000	2000
Wire size (mm <sup>2</sup> /AWG)	≤10/7 ≤70/(2/0)	≤10/7 ≤25/3	≤2/14 ≤4/11	≤2/14 ≤4/11	≤2/14