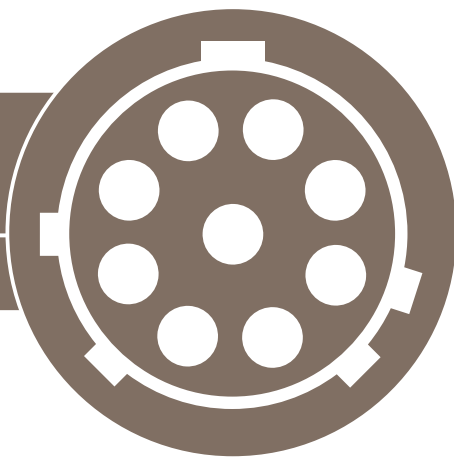


H

CHAPTER



FISCHER ULTIMATE™ SERIES

RUGGED | COMPACT | LIGHTWEIGHT

KEY FEATURES

- IP68 to -120m / IP69 / Hermetic
- 360° EMC shielding
- High corrosion resistance
- 10,000 mating cycles



H-2 / H-28

ULTIMATE



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This catalog covers our standard connector solutions. For specific requests, including hybrid or custom connectors, please contact your local sales representative.

AVAILABLE SIZES

CONNECTOR SIZE VERSUS CABLE DIAMETER



Size	Min cable ø	Max cable ø	Number of contacts
07	1.7	4.9	2-10
08	1.5	7.5	2-9
11	5.7	8.9	8-19
13	5.7	12.9	5-27
18	5.7	13.9	42

Images of available sizes are on 1:1 scale when printed full size on A4 paper.

PLUGS

CABLE MOUNTED



Body style		UP01	References to detailed information
Protection	Sealed up to IP68	●	Sealing categories, page A-6
	Hermetic		
Locking system	Friction		Locking systems, page A-5
	Push-pull	●	
	Quick-release	●	
	Lanyard		
	Tamperproof		
Contacts	Crimp	●	Electrical & contact configurations, pages H-13 to H-17
	Solder	●	
Housing color	Anthracite	●	Part numbering, page H-22
	Black		
Design	Shortened body	●	Body styles, chapter H
	Straight	●	
	Right-angle	●	
Cabling	Cable clamp sets		
	Overmoldable	●	
	Heat shrinkable	●	
Accessories	Cable bend reliefs	●	Accessories, page H-23
	Protective sleeves		
	Sealing caps	●	
Size	07	●	Technical dimensions, page H-5 For more information visit our website www.fischerconnectors.com/technical
	08	●	
	11	●	
	13	●	
	18	●	

Technical dimensions

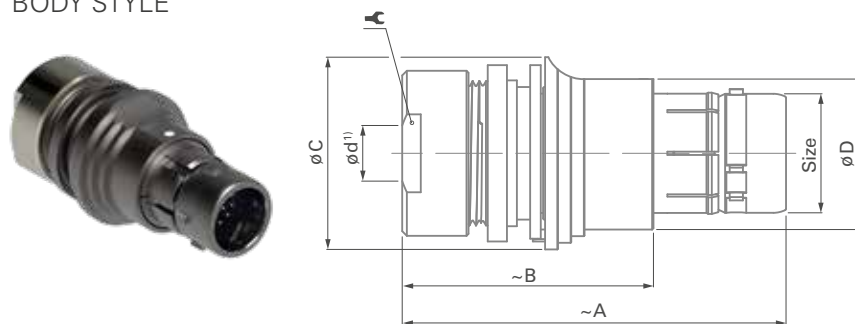
FISCHER **ULTIMATE™** SERIES

PLUGS

CABLE MOUNTED

UP01

BODY STYLE



Size	A	B	ØC	ØD	Ød max	🔩	Torque
07	28.0	18.0	12.0	9.0	4.5	8	1.5 Nm
08	39.0	25.0	15.0	10.5	4.5	10	2.5 Nm
11	39.5	26.0	18.5	13.7	7.1	14	3.0 Nm
13	50.0	34.0	21.7	16.0	8.7	17	3.5 Nm
18	58.0	38.0	29.0	22.7	13.7	22	6.0 Nm

¹¹ Max. cable diameter below shield.

All dimensions and images shown are in millimeters and are for reference only.

PLUGS

PANEL FRONT MOUNTED



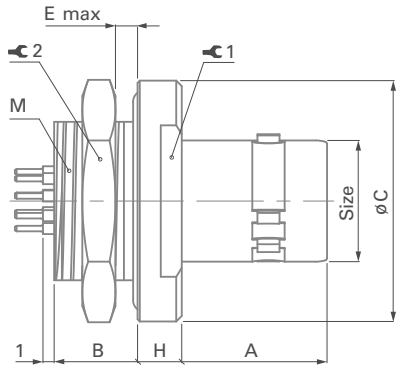
Body style		UP50	References to detailed information
Protection	Sealed up to IP68	●	Sealing categories, page A-6
	Hermetic		
Locking system	Friction	●	Locking systems, page A-5
	Push-pull		
	Quick-release		
	Lanyard		
	Tamperproof		
Contacts	Crimp	●	Electrical & contact configurations, pages H-13 and H-15
	Solder	●	
Housing color	Anthracite	●	Part numbering, page H-22
	Black		
Design	Shortened body		Body styles, chapter H
	Straight	●	
	Right-angle		
Assembly	Front-mounting	●	
	Rear-mounting		
Accessories	Cable bend reliefs		Accessories, page H-23
	Protective sleeves		
	Sealing caps	●	
Size	07	●	Technical dimensions, page H-7 For more information visit our website www.fischerconnectors.com/technical
	11	●	

PLUGS

PANEL FRONT
MOUNTED

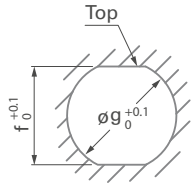
UP50

BODY STYLE



Size	A	B	øC	E	H	M	1	2	Torque
07	10.0	5.2	13.0	2.5	3.0	9x0.5	9	11	1.3 Nm
11	13.2	7.6	21.8	4.5	4.0	16x1	17	19	4.5 Nm

Size	f	øg
07	8.0	9.1
11	14.5	16.1



PANEL CUT-OUT

All dimensions and images shown are in millimeters and are for reference only.

RECEPTACLES

CABLE MOUNTED



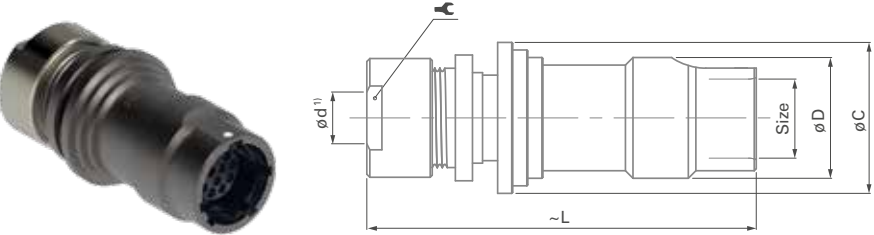
Body style		UR50	References to detailed information
Protection	Sealed up to IP68	●	Sealing categories, page A-6
	Hermetic		
Contacts	Crimp	●	Electrical & contact configurations, pages H-13 to H-16
	Solder	●	
Housing	Anthracite	●	Part numbering, page H-22
	Black		
Design	Shortened body		Body styles, chapter H
	Straight	●	
	Right-angle	●	
Cabling	Cable clamp sets		
	Overmoldable	●	
	Heat shrinkable	●	
Accessories	Cable bend reliefs	●	Accessories, page H-23
	Protective sleeves		
	Sealing caps	●	
Size	07	●	Technical dimensions, page H-9 For more information visit our website www.fischerconnectors.com/technical
	08	●	
	11	●	
	13	●	


RECEPTACLES

CABLE
MOUNTED

UR50

BODY STYLE



Size	ϕC	ϕD	ϕd_{max}	L		Torque
07	12.0	10.0	4.5	27	8	1.5 Nm
08	15.0	12.0	4.5	39	10	2.5 Nm
11	18.5	15.5	7.1	39	14	3.0 Nm
13	21.7	17.9	8.7	50	17	3.5 Nm

¹⁾ Max. cable diameter below shield.

RECEPTACLES

 PANEL
MOUNTED


Body style		UR01	UR02	UR03	References to detailed information
Protection	Sealed up to IP68	●	●	●	Electrical & contact configurations, page H-13 to H-17
	Hermetic				
Contacts	Crimp	●			
	Solder	●	●	●	
	PCB	●	●	●	
Housing color	Anthracite	●	●	●	Part numbering, page H-22
	Black				
Design	Right-angle				Body styles, chapter H
	Flush		●		
	Front-projecting	●		●	
	Bulkhead feedthrough				
Assembly	Front-mounting			●	
	Rear-mounting	●	●		
Accessories	Sealing caps	●	●	●	Accessories, page H-23
	Spacers				
	Color-coded washers				
	Grounding washers				
	Locking washers				
Size	07	●	●	●	Technical dimensions, page H-11 and H-12 For more information visit our website www.fischerconnectors.com/technical
	08	●	●	●	
	11	●	●	●	
	13	●	●		
	18	●	●		

Technical dimensions

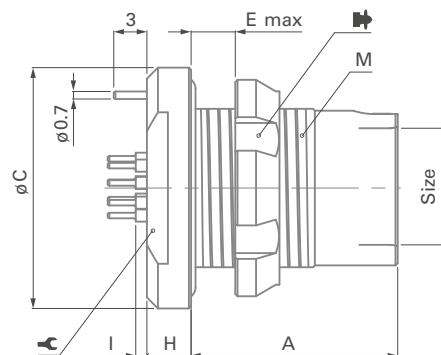
FISCHER **ULTIMATE™** SERIES

RECEPTACLES

PANEL REAR MOUNTED*

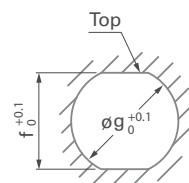
UR01

BODY STYLE



Size	A	øC	E	H	I	M			Torque
07	14.2	14.0	4.5	3.0	0.7	10x0.5	11	TC00.007	1.5 Nm
08	18.7	16.9	5.0	4.0	1.0	12x1	15	TF00.001	2.5 Nm
11	18.7	21.8	7.0	4.0	1.0	16x1	17	TK00.002	4.5 Nm
13	22.5	23.8	5.5	4.0	1.0	18x1	20	TP00.011	6.0 Nm
18	29.3	31.8	7.5	4.0	1.0	25x1	27	TQ00.005	10.0 Nm

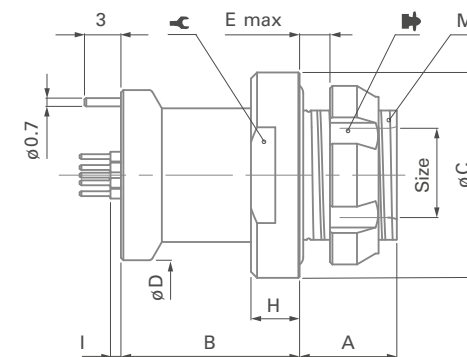
Size	f	øg
07	9.2	10.1
08	10.9	12.1
11	14.5	16.1
13	16.5	18.1
18	23.2	25.1



PANEL CUT-OUT

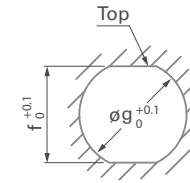
UR02

BODY STYLE



Size	A	B	øC	øD	E	H	I	M			Torque
07	6.5	10.7	14.0	13.0	3.5	3.5	0.7	9x0.5	11	TC00.000	1.3 Nm
08	8.0	14.7	16.9	14.0	4.0	4.0	1.0	12x1	15	TF00.001	2.5 Nm
11	8.0	14.7	21.8	18.8	4.0	4.0	1.0	16x1	17	TK00.002	4.5 Nm
13	10.5	16.0	23.8	20.0	5.0	4.0	1.0	18x1	20	TP00.011	6.0 Nm
18	11.0	22.3	31.8	26.0	5.0	4.0	1.0	25x1	27	TQ00.005	10.0 Nm

Size	f	øg
07	8.0	9.1
08	10.9	12.1
11	14.5	16.1
13	16.5	18.1
18	23.2	25.1



PANEL CUT-OUT

* Standard version with PCB contacts and grounding pin. For solder contact version, a special solder ground contact pin is included for AWG22[7/30].

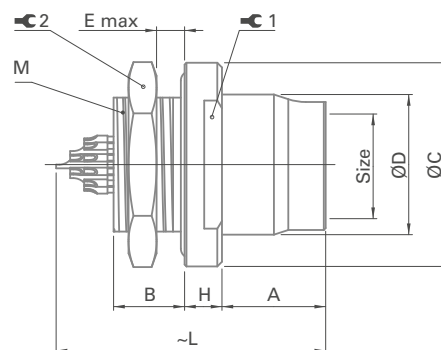
All dimensions and images shown are in millimeters and are for reference only.

RECEPTACLES

PANEL FRONT MOUNTED*

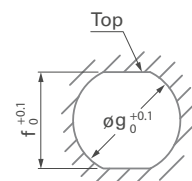
UR03

BODY STYLE



Size	A	B	ØC	ØD	E	H	L	M	1	2	Torque
07	7.7	6.4	14.0	10.0	3.5	2.5	20	9x0.5	11	11	1.3 Nm
08	11.7	7.0	16.9	11.5	4.0	4.0	27	12x1	15	14	2.5 Nm
11	11.1	7.6	21.8	15.0	4.6	4.0	29	16x1	17	19	4.5 Nm








Size	f	Øg
07	8.0	9.1
08	10.9	12.1
11	14.5	16.1



PANEL CUT-OUT

* Standard version with solder contacts.

SIZE 07

Size	Pin layout	Layout reference	Number of contacts	Contact diameter <small>[mm]</small>	Wire size ³⁾		PCB contacts	Current rating <small>[A]</small>	Rated voltage r.m.s <small>[V]</small>	Test voltage <small>[kV]</small> in mated position			
										IEC 60512-4-1 Test 4a			
					Solder contacts ¹⁾	Crimp contacts ²⁾	AC r.m.s.		DC				
							Contact to body	Contact to contact	Contact to body	Contact to contact			
07		002	2	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	⁶⁾ max ø0.83mm min ø0.48mm AWG22-26	0.63	9.2	≤ 250	1.3	1.7	1.8	2.4
		003	3	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	0.63	8.2	≤ 250	1.3	1.3	1.8	1.6
		004	4	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	0.50	5.5	≤ 200	1.2	1.2	1.7	1.8
		005	5	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	0.50	5.2	≤ 160	0.8	1.0	1.3	1.8
		007	7	0.5	max ø0.43mm AWG26 [1] AWG28 [19/40]	max ø0.43mm min ø0.20mm AWG28-32	0.40	4.0	≤ 160	0.8	1.0	1.3	1.8
		009	9	0.5	max ø0.43mm AWG26 [1] AWG28 [19/40]	-	0.40	3.1	≤ 160	0.8	1.1	1.2	1.8
		010	10	0.5	max ø0.43mm AWG26 [1] AWG28 [19/40]	-	0.40	3.1	≤ 160	0.8	0.9	1.2	1.3

¹⁾ Stranding values are in brackets.

²⁾ See dedicated crimping instructions document for further information.

³⁾ For a given AWG, the diameter of some stranded cable designs could be larger than the hole diameter of the barrel. Testing may be required.

⁴⁾ Current per contact at 40°C temperature rise measured on the basic curve according to IEC 60512-5-2-5b. For maximum operating current, a reduction factor must be used and limitations due to the size of the wires and the permissible upper temperature limit of the materials employed must be taken into account. See page A12 for details.







⁵⁾ Recommended operating voltage at sea level. This rated voltage is a general guideline where no other electrical safety standard applies.

In cases where other standards rule a specific use of the connector, the application-specific safety criteria shall be considered first. This must be evaluated in the framework of equipment engineering.

⁶⁾ Standard polarity only.

All dimensions and images shown are in millimeters and are for reference only.

SIZE 08

Size	Pin layout	Layout reference	Number of contacts	Contact diameter <i>[mm]</i>	Wire size ³⁾		PCB contacts	Current rating <i>[A]</i>	Rated voltage r.m.s <i>[V]</i>	Test voltage <i>[kV]</i> in mated position			
										IEC 60512-4-1 Test 4a			
					Solder contacts ¹⁾	Crimp contacts ²⁾	AC r.m.s.		DC				
							Contact to body	Contact to contact	Contact to body	Contact to contact			
08		002	2	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	0.70	9.2	≤ 250	1.3	1.7	1.8	2.4
		003	3	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	0.70	8.2	≤ 250	1.3	1.3	1.8	1.6
		004	4	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	0.50	5.5	≤ 200	1.2	1.2	1.7	1.8
		005	5	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	0.50	5.2	≤ 160	0.8	1.0	1.3	1.8
		007	7	0.5	max ø0.43mm AWG26 [1] AWG28 [19/40]	-	0.40	4.0	≤ 160	0.8	1.0	1.3	1.8
		009	9	0.5	max ø0.43mm AWG26 [1] AWG28 [19/40]	-	0.40	3.1	≤ 160	0.8	1.1	1.2	1.8

¹⁾ Stranding values are in brackets.

²⁾ See dedicated crimping instructions document for further information.





³⁾ For a given AWG, the diameter of some stranded cable designs could be larger than the hole diameter of the barrel. Testing may be required.

⁴⁾ Current per contact at 40°C temperature rise measured on the basic curve according to IEC 60512-5-2-5b. For maximum operating current, a reduction factor must be used and limitations due to the size of the wires and the permissible upper temperature limit of the materials employed must be taken into account. See page A12 for details.

⁵⁾ Recommended operating voltage at sea level. This rated voltage is a general guideline where no other electrical safety standard applies.

In cases where other standards rule a specific use of the connector, the application-specific safety criteria shall be considered first. This must be evaluated in the framework of equipment engineering.

SIZE 11

Size	Pin layout	Layout reference	Number of contacts	Contact diameter [mm]	Wire size ³⁾		PCB contacts	Current rating [A]	Rated voltage r.m.s [V]	Test voltage [kV] in mated position			
					Solder contacts ¹⁾	Crimp contacts ²⁾				IEC 60512-4-1 Test 4a			
							AC r.m.s.		DC				
							Contact to body	Contact to contact	Contact to body	Contact to contact			
11		008	8	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	0.50	4.2	≤ 250	1.7	1.8	3.1	2.6
		012	12	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	^{6) 7)} max ø0.62mm min ø0.38mm AWG24-28	0.50	4.2	≤ 250	1.6	1.6	2.6	2.3
		016	16	0.5	max ø0.43mm AWG26 [1] AWG28 [19/40]	-	0.40 ⁶⁾	2.7	≤ 250	1.2	0.9	2.0	1.5
		019	19	0.5	max ø0.43mm AWG26 [1] AWG28 [19/40]	-	0.40 ⁶⁾	2.5	≤ 250	1.2	0.9	2.0	1.5

¹⁾ Stranding values are in brackets.

²⁾ See dedicated wire gauge crimping instructions document for further information.

³⁾ For a given AWG, the diameter of some stranded cable designs could be larger than the hole diameter of the barrel. Testing may be required.




⁴⁾ Current per contact at 40°C temperature rise measured on the basic curve according to IEC 60512-5-2-5b. For maximum operating current, a reduction factor must be used and limitations due to the size of the wires and the permissible upper temperature limit of the materials employed must be taken into account. See page A12 for details.

⁵⁾ Recommended operating voltage at sea level. This rated voltage is a general guideline where no other electrical safety standard applies.
In cases where other standards rule a specific use of the connector, the application-specific safety criteria shall be considered first. This must be evaluated in the framework of equipment engineering.

⁶⁾ Not valid for UP50.

⁷⁾ UR0x: standard polarity only.

SIZE 13

Size	Pin layout	Layout reference	Number of contacts	Contact diameter [mm]	Wire size ³⁾		PCB contacts	Current rating [A]	Rated voltage r.m.s [V]	Test voltage [kV] in mated position			
					IEC 60512-4-1 Test 4a								
					Solder contacts ¹⁾	Crimp contacts ²⁾	Pin ø [mm]	IEC 60512-5-2-5b ⁴⁾	IEC 60664-1 ⁵⁾	AC r.m.s.		DC	
										Contact to body	Contact to contact	Contact to body	Contact to contact
13		203	2 ⁸⁾	2.3	max ø3.28mm AWG9 [19/22]	-	1.8	26	≤ 320	2.2	1.7	3.7	2.4
			3	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	0.5	1	≤ 320	2.1		3.7	
		303	3 ⁸⁾	1.6	max ø1.86mm AWG13 [1] AWG14 [7/22]	-	1.5	16	≤ 320	2.6	1.6	3.6	2.4
			3	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	0.5	1	≤ 320	2.6		3.6	
		027	27	0.5	⁶⁾ max ø0.43mm AWG26 [1] AWG28 [19/40]	⁷⁾ max ø0.43mm min ø0.20mm AWG28-32	0.40 ⁶⁾	2.0	≤ 200	1.2	0.5	1.8	0.5

¹⁾ Stranding values are in brackets.

²⁾ See dedicated wire gauge crimping instructions document for further information.

³⁾ For a given AWG, the diameter of some stranded conductor designs could exceptionally be larger than the hole diameter of the barrel. Testing may be required.

⁴⁾ Current per contact at 40°C temperature rise measured on the basic curve according to IEC 60512-5-2-5b. For the max. operating current a reduction factor must be used and limitations due to the size of the wires and the permissible upper temperature limit of the materials employed must be taken into account. See page A12 for details.

⁵⁾ Recommended operating voltage at sea level. This rated voltage is a general purpose guideline where no other electrical safety standard applies.


In cases where other standards rule a specific use of the connector, the application-specific safety criteria shall be considered first. This must be evaluated in the framework of equipment engineering.

⁶⁾ UR0x: standard polarity only.

⁷⁾ Only valid for UP01, UR50.

⁸⁾ Contact block with male contacts comes standard with advanced power contacts.

SIZE 18

Size	Pin layout	Layout reference	Number of contacts	Contact diameter [mm]	Wire size ³⁾		PCB contacts	Current rating [A]	Rated voltage r.m.s [V]	Test voltage [kV] in mated position			
										IEC 60512-4-1 Test 4a			
					Solder contacts ¹⁾	Crimp contacts ²⁾	AC r.m.s.		DC				
							Contact to body	Contact to contact	Contact to body	Contact to contact			
18		018	42 ⁶⁾	0.7	-	max ø0.62mm min ø0.38mm AWG24-28	0.50	3.0	≤ 250	1.5	1.5	2.4	2.5

¹⁾ Stranding values are in brackets.

²⁾ See dedicated wire gauge crimping instructions document for further information.













³⁾ For a given AWG, the diameter of some stranded cable designs could be larger than the hole diameter of the barrel. Testing may be required.













⁴⁾ Current per contact at 40°C temperature rise measured on the basic curve according to IEC 60512-5-2-5b. For maximum operating current, a reduction factor must be used and limitations due to the size of the wires and the permissible upper temperature limit of the materials employed must be taken into account. See page A12 for details.

⁵⁾ Recommended operating voltage at sea level. This rated voltage is a general guideline where no other electrical safety standard applies.
In cases where other standards rule a specific use of the connector, the application-specific safety criteria shall be considered first. This must be evaluated in the framework of equipment engineering.

⁶⁾ Standard polarity only.

MECHANICAL CODING

PLUGS	Size	Code 1	Code 2	Code 3	Code 4
	07				
	08				
	11				
	13				
	18				
Visual coding		●	▼	■	×

RECEPTACLES	Size	Code 1	Code 2	Code 3	Code 4
	07				
	08				
	11				
	13				
	18				
Visual coding		●	▼	■	×

PCB hole layout

FISCHER **ULTIMATE™** SERIES

POLARITY

BODY STYLES

UP01

UP50



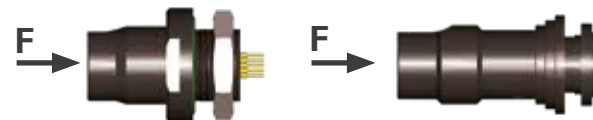
UR01

UR02



UR03

UR50



POLARITY

Standard polarity : male contacts on plug / female contacts on receptacle

Inverted polarity : female contacts on plug / male contacts on receptacle.

WARNING : for high-current applications, make sure to choose the correct polarity (female contacts on device that is supplying the power)

PCB / PIN LAYOUT

View from F¹⁾

Size	Polarity	Number of contacts (layout reference)						
		2 (002)	3 (003)	4 (004)	5 (005)	7 (007)	9 (009)	10 (010)
07	Standard							
	Inverted							

¹⁾ Recommended PCB hole dimensions may be adjusted to application.

^{a)} For optional ground pin.

All dimensions and images shown are in millimeters and are for reference only.

PCB /PIN LAYOUT

View from F¹⁾

Size	Polarity	Number of contacts (layout reference)					
		2 (002)	3 (003)	4 (004)	5 (005)	7 (007)	9 (009)
08	Standard						
	Inverted						

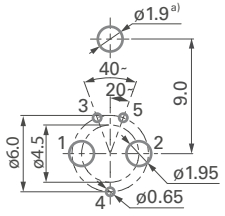
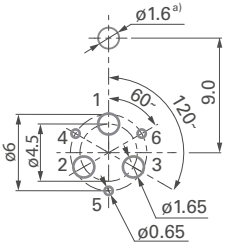
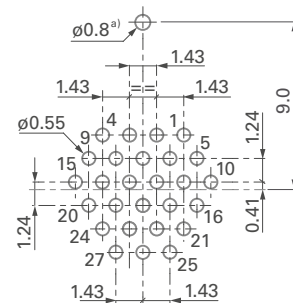
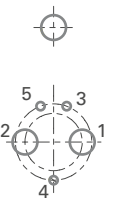
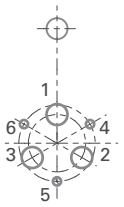
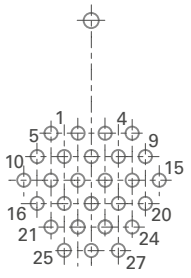
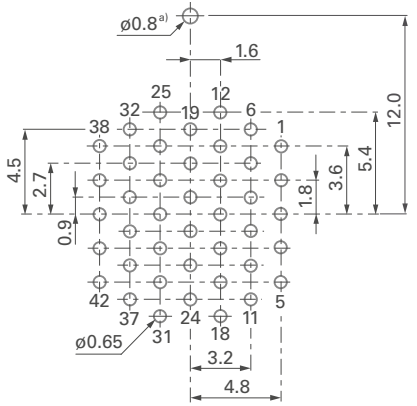
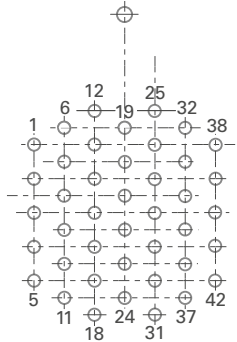
Size	Polarity	Number of contacts (layout reference)			
		8 (008)	12 (012)	16 (016)	19 (019)
11	Standard				
	Inverted				

¹⁾ Recommended PCB hole dimensions may be adjusted to application.

^{a)} For optional ground pin.

PCB /PIN LAYOUT

View from F¹⁾

Size	Polarity	Number of contacts (layout reference)		
		2+3 (203)	3+3 (303)	27 (027)
13	Standard			
	Inverted			
18	Standard			
	Inverted			

¹⁾ Recommended PCB hole dimensions may be adjusted to application.²⁾ For optional ground pin.

All dimensions and images shown are in millimeters and are for reference only.

PLUGS & RECEPTACLES

Example:

Connector Design			
UP01		L	07
UR01	W		11

Contact Block		
M	010	S
F	012	S

Housing	
BK	1
BK	2

Standard options			
Z	2	Z	B
E	1	A	A

Body style

UltiMate Plug = UP

- UP01 = Cable mounted
- UP50 = Panel mounted

UltiMate Receptacle = UR

- UR01 = Panel rear mounted low profile
- UR02 = Panel rear mounted
- UR03 = Panel front mounted low profile
- UR50 = Cable mounted

Sealing level

Panel mounted:

- V = Vacuum sealing
- W (IP68/69) = Water sealing
- N = Non sealing

Cable mounted:

- Not applicable = Nothing

Locking system

Cable mounted plug:

- L = Push-pull locking
- Q = Quick release

Cable mounted receptacle:

- Z = Not applicable

Panel mounted:

- No locking = Nothing

Connector size

- 07 = Size 07
- 08 = Size 08
- 11 = Size 11
- 13 = Size 13
- 18 = Size 18

Housing Material

- A = ALUMINUM

- B = BRASS (Standard)

Grounding

Panel mounted:

- A = Grounding pin (for UR01/UR02)
- N = None (for UR03/UP50)

Cable mounted:

- Z = Not applicable

Insulator Material

- 1 = PBT, Size 08/11/13/18

- 2 = PEEK. Size 07 only

O-ring material

Receptacle:

- O-ring at plug interface
- E = Standard (FVMQ)

Plug:

- Z = Not applicable

Keying code

- Code 1 = ●
- Code 2 = ▼
- Standard keying = Code 1

- Code 3 = ■

- Code 4 = ✕

Standard guide mark = White

Housing color

- BK = Standard (Anthracite)

Contact Type

- S = Solder
- P = PCB
- C = Crimp

Layout references

- Size 07: 002, 003, 004, 005, 007, 009, 010
- Size 08: 002, 003, 004, 005, 007, 009

- Size 11: 008, 012, 016, 019
- Size 13: 203, 303, 027
- Size 18: 042

Polarity of contacts

- M = Male contacts

- F = Female contacts

Standard polarity:

Male contacts in plug, female contacts in receptacle

BEND RELIEF

Top performance, no hassle

- No tool required: 5 steps to assemble
- Clean cut: perfectly adjust the bend relief to your cable diameter with a simple blade

Long lasting

- Resists 10,000 flex cycles at a 90° angle
- Operating temperature -55°C to +135°C
- UV resistant

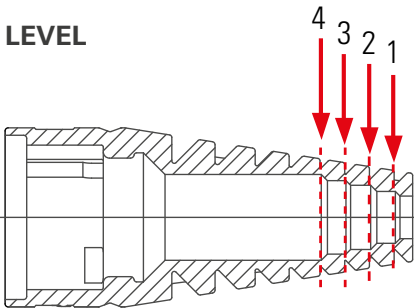


Standard color is black (BK)
Also available in grey (GY), blue (BL), yellow (YL), green (GN), violet (VT) upon request.

Please contact your Fischer Connectors sales representative.

CUTTING DIAMETERS

Size	Uncut	Level 1	Level 2	Level 3	Level 4	Part Number
07	ø1.9	ø2.9	ø3.9	ø4.9	-	UB07 A1BK
08	ø2.5	ø3.7	ø5.7	ø7.5	-	UB08 A1BK
11	ø3.9	ø5.4	ø6.9	ø8.9	-	UB11 A1BK
13	ø6.9	ø8.9	ø10.9	ø12.9	-	UB13 A1BK
18	ø6.9	ø8.4	ø10.4	ø11.9	ø13.9	UB18 A1BK



SOFT CAPS - LANYARD WITH NYLON THIN CORD

FIGURE 1

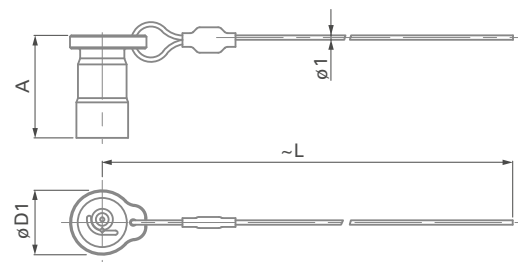
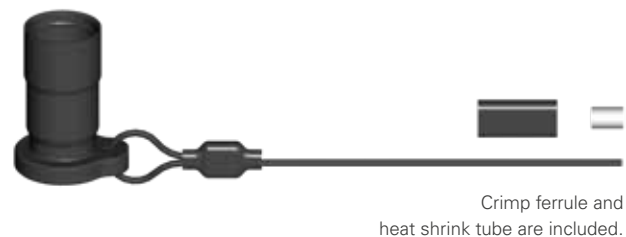


FIGURE 2

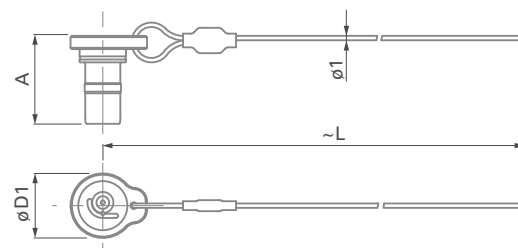
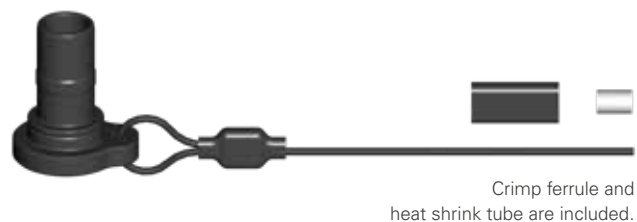
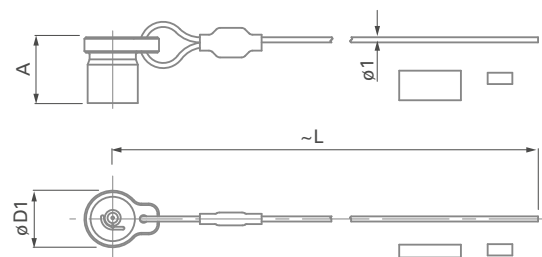
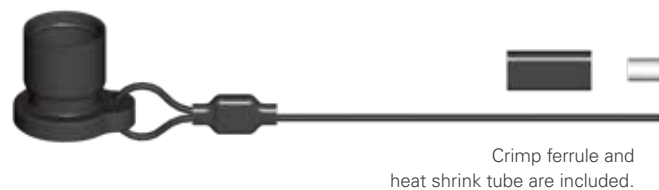
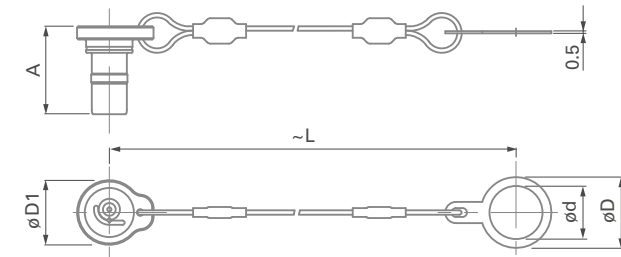


FIGURE 3



SOFT CAPS - LANYARD WITH NYLON THIN CORD

FIGURE 4



Size	Plug		Receptacle				A	D1	L	d	D	Part number	Fig.
	UP01	UP50	UR01	UR02	UR03	UR50							
07	●						18.5	11.0	200	-	-	UCP07C 1A1 A200	1
			●	●	●	●	16.0	11.0	200	-	-	UCR07C 1A1 A200	2
		●					12.8	11.0	200	-	-	UCP07P 1A1 A200	3
			●	●	○		16.0	11.0	95	10	14	UCR07P 1A1 A095	4
08	●						23.2	14.6	200	-	-	UCP08C 1A1 A200	1
			●	●	●	●	19.9	14.6	200	-	-	UCR08C 1A1 A200	2
			●	●	○		19.9	14.6	95	12	16	UCR08P 1A1 A095	4
11	●						22.0	17.6	200	-	-	UCP11C 1A1 A200	1
			●	●	●	●	19.2	17.6	200	-	-	UCR11C 1A1 A200	2
			●	●	○		19.2	17.6	95	16	21	UCR11P 1A1 A095	4
13	●						25.0	20.7	200	-	-	UCP13C 1A1 A200	1
			●	●	●	●	22.5	20.7	200	-	-	UCR13C 1A1 A200	2
			●	●			22.5	20.7	95	18	23	UCR13P 1A1 A095	4
18	●						29.5	28.7	200	-	-	UCP18C 1A1 A200	1
			●	●			25.0	28.7	95	25	29	UCR18P 1A1 A095	4

● Recommended for optimal sealing.

○ Compatible but not recommended for optimal sealing.

All dimensions and images shown are in millimeters and are for reference only.

SPANNER & NUT DRIVER

DOUBLE-ENDED OPEN SPANNER EXTRA THIN



Part number	Opening across flats	Length	Fork thickness
TX00.008	8	96	2.3
TX00.009	9	102	2.5
TX00.010	10	104	2.5
TX00.011	11	114	2.5
TX00.014	14	130	3.0

Material – Chrome Alloy Steel, Chrome plated, Fork Angles – 15° and 75°.

OPEN SPANNER EXTRA THIN



Part number	Opening across flats	Length	Fork thickness
TX00.015	15	145	5.2
TX00.017	17	160	5.5
TX00.019	19	175	6.0
TX00.020	20	175	6.0
TX00.022	22	196	6.5
TX00.027	27	240	7.4

Material – Chrome Vanadium Steel, Chrome plated, Fork Angle – 15°.

NUT DRIVER WITH T-HANDLE AND HEX DRIVE



Part number	Thread size	Nut outer dia.	D	Hex drive
TC00.000	M9 x 0.5	12	15	7
TC00.007	M10 x 0.5	13	16	7
TF00.001	M12 x 1	15	18	10
TK00.002	M16 x 1	20	23	12
TP00.011	M18 x 1	23	26	12
TP00.005	M20 x 1	25	28	12

Material – Hardened Tool Steel, Nickel plated.

MATERIAL & SURFACE TREATMENT

Components		Material		Finish	
		Designation ISO	Standard	Designation	Standard
Spring sleeve (plug), shell (plug), Mounting nut (receptacle)¹⁾, bodies (all)		Aluminum AlMgSiSn1Bi	EN-AW-6023	Anthracite Nickel	SAE-AMS-QQ-N-290 SAE-AMS 2404
		Brass CuZn39Pb3	CW614N UNS C 38500		
Back nut (plug & cable mounted receptacle), Mounting nut (receptacle)²⁾		Aluminum AlMgSiSn1Bi	EN-AW-6023	Nickel	SAE-AMS-QQ-N-290 SAE-AMS 2404
		Brass CuZn39Pb3	CW614N UNS C 38500		
Ground contact		Brass CuZn39Pb3	CW614N UNS C 38500	Nickel	SAE-AMS-QQ-N-290 SAE-AMS 2404
Contacts	- Male, ground pin - Female	Brass ; CuZn39Pb3 Bronze ; CuSn4Zn4Pb4	CW614N ; UNS C 38500 CW456K ; ASTM B 139 UNS C 54400	1µm Gold over Nickel	MIL-DTL-45204D Type I ; ASTM B488

Insulator and sealing		International symbol	Flammability
Insulator	- Molded	PBT, PEEK ³⁾	UL 94 V-0
Inner sleeve	- Cable connectors	POM	UL 94 HB
Sealant materials	- «V» Vacuum sealed connectors	Bi-component Epoxy compound	UL 94 HB
	- «W» Water sealed connectors	Silicon compound	UL 94 V-0
Bend relief	- Cable connectors	Santoprene™ TPV 101-64	UL 94 HB

Soft caps		Material	Flammability
Cap		TPV (Santoprene™)	UL 94 HB
Cord		Nylon	-
Fixing lug		Black Chrome plated brass (ISO CuZn37)	-
Crimp ferrule		Nickel plated copper	-

O-rings		International symbol	Chemical name
General		FPM (Viton®)	Fluoro elastomer
Interface		FVMQ	Fluorosilicone rubber

¹⁾ For UR01 & UR02.

²⁾ For UR03 & UP50.

³⁾ PBT for Size 08, 11, 13 and 18 only. PEEK for Size 07 only.

ENVIRONMENTAL & MECHANICAL DATA

Characteristic	Performance	Standard
Sealing performance mated and unmated	IP68/IP69 2m submersion for 24h ¹⁾	IEC 60529
	"V" sealing level: Hermetic: Tested: <10 ⁻⁸ mbar l/sec.	IEC 60068-2-17 Test Qk, Method 3
Sealing performance soft caps	IP68, 2m submersion for 24 hours; IP69;	IEC 60529
Operating temperature range	-55°C to +135°C ²⁾	IEC 60512-6-11 i+j; IEC 60068-2-14-Nb
Corrosion resistance ³⁾	Salt mist, 1,000 hours, 5% salt solution, 35°C;	IEC 60068-2-11 Test Ka; MIL-STD-202 Method 101; EIA-364-26
Endurance	10,000 mating cycles	IEC 60512-9-1; EIA-364-09
Vibration, random (Size 08, 11, 13, 18)	3780 Grms,	MIL-STD-202 Method 214A Condition I; EIA-364-28 Condition V
Vibration (Size 07)	10 to 2,000 Hz, 1.5 mm or 15g, 12 sweep cycles per axis, 20 minutes per 10-2,000-10 Hz sweep cycle, no discontinuity > 1us;	MIL-STD-202 Method 204 Condition B
Shock	300g amplitude, half sine pulse of 3ms, no discontinuity > 1μs	MIL-STD-202 Method 213; EIA-364-27

¹⁾ 120m/24h or other depth/duration requirements available on request, please contact your local sales office.

²⁾ Temperature range of -40°C to +125°C for cable connectors overmolded with TPU material. Max. temperature of +85°C for soft caps.

³⁾ Plug and receptacle in mated position or with cap when unmated. For Brass connectors only.

Aluminum version not recommended for Marine use. Preserved mechanical and electrical functionality. Visual aspect might be altered.

ELECTRICAL DATA

Characteristic	Contact size	Typical values	Standard
Contact resistance over 10,000 mating cycles	Ø 0.5 mm	5.0 mΩ	IEC 60512-2-1-2a IEC 60512-2-2-2b
	Ø 0.7 mm	5.0 mΩ	
	Ø 0.9 mm	4.0 mΩ	
	Ø 1.6 mm	2.5 mΩ	
	Ø 2.3 mm	2.5 mΩ	
Shell resistance ⁴⁾		< 5.0 mΩ	IEC 60512-2-6-2f
Insulation resistance		> 10 ¹⁰ Ω	IEC 60512-3-1-3a Method C
Shielding effectiveness ⁵⁾		> 55 dB	up to 1 GHz, IEC 60512-23-3

⁴⁾ Measurement points on Figure 1.

⁵⁾ Size 08 connector pair.

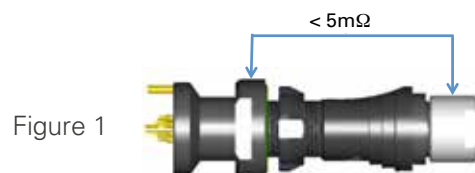






Figure 1

DATA TRANSMISSION

Protocol	Number of contacts required	
USB 2.0 	4	yes
USB 3.0 	9	application dependent ⁶⁾
Ethernet Cat 5e (1Gb/s) 	8	yes
HDMI™ 	19	yes

The data transmission performance of the Fischer UltiMate™ Series has been tested for most popular protocols that are used in a variety of applications today.

⁶⁾ Test with your application to confirm acceptable functionality