

Setting Standards





Product Overview











Technical Data

Power Connectors Size 1,5 (M40)

Mechanical Data	Materials and Technical Data	
Housing	Copper-Zinc alloy	
	Die Cast	
Housing surface	Nickel plated, other surface upon request	
Inserts (for contacts)	Thermoplastic Polyamid PA 6 (Nylon 6/6), PBT Fire protection class V-0	
Contacts	Brass Alloy	
Contact surface at point of contact	Nickel and gold plated (0,25 µm Au)	
Minimum mating cycles	> 500	
Seals / O-Rings	Buna-N standard optional Viton® (Viton is a registered trademark of DuPont)	
Temperature range	-40° C – 125° C (-40 °F – 257 °F)	
Type of contacts	Crimp	
Protection	IP 67 / IP 69 K per EN 60 529 (connected), NEMA 4x	
Cable diameter range	13 – 28 mm (.51" – 1.10")	

Electrical Data				
Number of positions	3+2	2 + PE	4+3	+ PE
Number of contacts	2	4	4	4
Contact-Ø [mm]	2	3,6	2	3,6
Nominal current ¹ [A]	28	55	28	55
Nominal voltage ²) [V~] Degree of Protection 3 ³	300	600	300	600
Test voltage (Breakdown voltage) 4 [V~]	2500	4000	2500	4000
Insulation resistance [MQ]	>	1013	> 1	O ¹³
Max. contact resistance [mΩ]	3	1	3	1
1. 2. 3. 4 See Technical Informations page 14				

Standard delivery of M40 (size 1.5) Power Connector include Contact Insert





































Power Connectors Size 1,5 (M40) / Required Contacts

	Type of Contact	Contact Arrangement, Mating View
Insert for pins 2 + 3 + PE	2 x crimp pins 2 mm 4 x crimp pins 3,6 mm	
Insert for sockets 2 + 3 + PE	2 x crimp sockets 2 mm 4 x crimp sockets 3,6 mm	
Insert for pins 4 + 3 + PE	4 x crimp pins 2 mm 4 x crimp pins 3,6 mm	
Insert for sockets 4 + 3 + PE	4 x crimp sockets 2 mm 4 x crimp sockets 3,6 mm	



Power Connectors Size 1,5 (M40) / Contacts



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Power Connectors Size 1,5 (M40) / Contacts

Туре	Part Number	Contacts
Crimp pin 3,6 mm, machined16 mm² (AWG 6)	7.015.953.631	
Crimp socket 3,6 mm, machined16 mm² (AWG 6)	7.015.953.632	
Crimp Tool Settings see page 144		
or appropriate setting of crimp tool see page 148		



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Power Connectors Size 1,5 (M40) / Accessories

Accessories	Туре	Part Number
	Plastic protective cap for connectors with female thread	7.000.900.152
	Plastic protective cap for connectors with male thread	7.000.900.151
	Brass protective cap for connectors with female thread	7.015.900.103
	Brass protective cap for connectors with male thread	7.015.900.102
	Brass protective cap with rope for connectors with female thread	7.015.9\$1.003
	Brass protective cap with rope for connectors with male thread	7.015.9\$1.002



Power Connectors Size 1,5 (M40) / Accessories

Туре	Part Number	Accessories
Adaptor flange for Straight Connectors	7.010.900.129	
Adapter for Conduit Fittings	Snapflex 257.010.900.214 DN 237.010.900.215 Snapflex 327.010.900.216 DN 297.010.900.217	
Crimp tool for manual crimpin of machined crimp contacts up for power connectors See page 140/141 for crimp tool instr	g p to 10 mm² (AWG 8) 7.000.900.902 uctions and page 144 for proper setting	
Crimp tool for manual crimpin of machined crimp contacts 1 See page 142/143 for crimp tool inst	g 6 mm² (AWG 6)7.000.900.903 ructions and page 144 for proper setting	





Crimp Tool	Туре	Part Number
	Crimp tool	7.000.900.902
	 Application The four indent crimp tool 7.000.900.902 has been devel machined contacts with diameters from 1 to 10 mm² (18 the How to Crimp) The reference table indicates the correct locator position to depth to be adjusted for the contact to be crimped. The contact by closing the handles to the first lock-in position thus preverout of the tool and facilitating insertion of the wire into the The precision ratchet assures consistently accurate crimping to be closed all the way completing the crimping cycle before again. Exchange of the Locator The locator can be exchanged by removing the socket head of the net of the ne	oped for optimal crimping of rough 8 AWG). be selected and the crimp ntact is then inserted through for. The contact is held in place enting the contact from falling contact. g every time by forcing the tool ore the tool can be opened cap screw with a socket wrench. hing it counter-clockwise.
	Retainer ring Selector number Red Selector knob	Tool in open position Tool in closed position Black Selector knob Safety clip



	Crimp lool
 Setting Up Instructions Tool must be in open position Place selected single position head assembly onto retainer ring with alignment pin in alignment pin hole After single position head is seated against retainer ring, tighten socket head screws with 9/64 inch socket head screw key Refer to dataplate on single position head. From the proper wire size column, determine the selector number that corresponds with the contact being used Remove spring clip lock wire from selector knob. Raise selector knob and rotate until selector number is in line with index mark. Replace spring clip lock wire (optional) Crimping Instructions Insert contact and prepared wire through the indenter opening into positioner Squeeze handles together until ratchet releases. Handle will return to open position. Remove crimped contact and wire 	
Removing Single Position Head Loosen socket head screws until threads are disengaged from retainer ring and remove with a straightlifting motion	
Gaging Instructions The correct function of the crimp tool has to be checked with a gage (item no. 7.010.900.117).	
"GO"-Gaging (green) Operate tool to fully closed position. Maintain firm hand pressure on the tool handles. Insert "GO" gage end. Gage must pass freely between indenter tips.	
"NO-GO"-Gaging (red) Operate tool to fully closed position. Maintain firm hand pressure on the tool handles. Insert "NO-GO" gage end. The "NO-GO" gage may partially enter the indenter ope- ning, but must not pass completely through the opening.	
Care of Tool There is virtually no maintenance required. However, it is a good practice to keep intenter tips free of residual color band deposits and other debris. A small wire brush may be used for this purpose.	
We strongly recommend that you: 1. Do not immerse tools in cleaning solution 2. Do not spray oil into tool to lubricate 3. Do not attempt to disassemble tool or make repairs	
This is a precision crimp tool and should be handled as such.	





Crimp Tool	Туре	Part Number
	Crimp tool for contacts 16 mm² (AWG 6) Application The hand crimp tool 7.000.900.903 has been variety of connectors and terminals by using dif Operation - Select crimp insert and install in tool - Insert and align crimp contact in tool - Compress tool until contact is held in place - Insert conductor into contact - Fully compress tool (tool will reopen automati - Remove crimped conductor from tool	7.000.900.903 developed for optimal crimping of a large iferent interchangeable crimping dies.
	Stationary jaw with upper die Movable jaw with lower die Set screw	rews Emergency release Adjustment wheel



Adjustment of crimp force and height

Crimp force adjustment is done in the factory (120 – 180 N when unloaded). Tool frame and jaws are connected that way, an optimal crimping result will be obtained based on the hand force indicated above. In case the result (e.g. crimp height, pull-out force, etc.) does not meet the requirements of the plug manufacturer, the following reasons can be considered:

a) Normal wear of tool

Readjustment possible

b) Worn dies Dies have to be replaced

The quality personnel is authorized to control and readjust these parameters as described below:

- Unscrew the set screw by means of a screw driver
- Rotating the adjustment wheel anticlockwise, the crimp force increases and the crimp height decreases (+)
- Rotating the adjustment wheel lockwise, the crimp force decreases and the crimp height increases (-)
- When readjusting the hand force shall not exceed 180 N
- Before using the tool, the operator has to check the adjustment wheel being firmly secured by the set screw

Maintenance

Keep the tool clean and properly stored when not in service. The joints need to be regularly oiled and the circlips securing the bolts have to be always in place. Never use abrasives or hard material to clean the jaws. Please contact the manufacturer when the tool needs to be repaired or in case of readjustment problems.





Crimp Tool Set	Crimp Tool Setting for HUMMEL Crimp Contacts (Crimp Tool 7.000.900.902)				
Part Number	Contact	Cross Section mm ²	AWG	Crimp Tool Setting mm	Locator Setting
7.015.952.001	Crimp pin 2 mm	1	17	2	3
		1,5	16	3	3
		2,5	14	4	3
		4	12	4	3
7.015.952.002	Crimp socket 2 mm	1	17	2	1
		1.5	16	3	1
		2.5	14	4	1
		4	12	4	1
7 015 953 601	Crimp pin 3 6 mm	1.5	16	3	2
7.013.733.001		2.5	14	3	2
		4	12	5	2
7 015 953 602	Crimp socket 3.6 mm	1.5	16	3	1
7.013.733.002	Chinp socker 5,0 min	1,5	14	5	4
		4	12	5	4
7.015.953.611	Crimp pin 3,6 mm	6	10	5	2
7.015.953.612	Crimp socket 3,6 mm	6	10	5	4
7.015.953.621	Crimp pin 3,6 mm	10	8	7	2
7.015.953.622	Crimp socket 3,6 mm	10	8	7	4
These values are only guidelines and actual conductor cross sections depend on manufacturer tolerances. Assembly information see page 148					

Crimp Tool Setting for HUMMEL Crimp Contacts (Crimp Tool 7.000.900.903)					
Part Number	Crimp Contact	Cross Section mm ²	AWG	Crimp Tool Setting	
7.015.953.631	Crimp pin 3,6 mm	16	6	die 16	
7.015.953.632	Crimp socket 3,6 mm	16	6	die 16	
These values are only guidel	lines and actual conductor cross sections de	epend on manufacturer tolerances.			
Assembly information see p	page 148				



Power Connectors Size 1,5 (M40) / Assembly Instructions





Power Connectors Size 1,5 (M40) / Assembly Instructions





Power Connectors Size 1,5 (M40) / Assembly Instructions





Crimping, Assembly and Disassembly



Crimping, Assembly and Disassembly Crimping - Strip wire ends 7 mm (.28") - Dial appropriate setting of crimp tool (page 144) - Push crimp contact into opening of crimping tool Insert stripped wire into the funnel shaped end of the crimp contact Squeeze handles of crimping tool together connect contact to wire Assembly Remove crimped assembly and pull on wire to test connection Push into desired position of insert Note: It is recommended to assemble the large contacts first. **Disassembly of Contacts from Insert** A small screwdriver is needed to remove the contacts from the insert. - Release the white ring by a screwdriver out of the insert Move the misplaced contacts out of the insert -Enter the ring back into the insert -Push the contacts back into insert -Shielding Assemble strain relief insert with insert Fold stranding of the shield back over the first O-Ring of the strain relief insert Cut back the overextending braid -The stranding of the shield is not allowed to touch the second O-Ring. Otherwise the assembly may not be proof.



Setting Standards

Push-Pull Technology Size M40





Product Overview











Technical Data

Push-Pull Connectors

Mechanical Data	Materials and Technical Data	
Housing	Copper-Zinc alloy Die Cast	
Housing surface	Nickel plated, other surface upon request	
Inserts (for contacts)	Thermoplastic Polyamid PA 6 (Nylon 6/6), PBT Fire protection class V-0	
Contacts	Brass Alloy	
Contact surface at point of contact	Nickel and gold plated (0,25 µm Au)	
Minimum mating cycles	> 250	
Seals / O-Rings	Buna-N standard optional Viton® (Viton is a registered trademark of DuPont)	
Temperature range	-40° C – 125° C (-40 °F – 257 °F)	
Type of contacts power M40	Crimp	
Protection	IP 67 / IP 69 K per EN 60 529 (connected), NEMA 4x	

Additional Information						
Electrical data see standard program Power Connectors Size 1,5	page 131	Inserts and contacts see standard prog Power Connectors Size 1,5	r am page 135			
We do not recommend disconnectin	g or connecting HUMA	AEL Connectors under load.				

Characteristics

HUMMEL Push-Pull Connectors guarantee:

- Quick connecting cycle
- EMC compatible connection due to radially locked metal ring
- High protection rate
- Easy connection / disconnection even under tight space conditions
- Best reliability with optional safety ring

Standard delivery of M40 (size 1.5) Power Connector include Contact Insert



Power Connectors Size 1,5 / Push-Pull



Straight Connector, Female Thread			Cable-Ø	Part Number
			2+3+PE, insert for socke 13 – 18 mm (.52 – .71") 17 – 24 mm (.67 – .95") 21 – 28 mm (.83 – 1.10" Optional: Safety ring Contacts page 136 • Assembly in	ets 7.715.623.000 7.715.723.000 ()7.715.823.000





Power Connectors Size 1,5 / Push-Pull







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Power Connectors Size 1,5 / Push-Pull



