

VARIOSUB D-SUB 9 Contact Inserts, Sleeve Housings

VARIOSUB is a range of plug connectors specially designed for signal and data technology in an industrial environment with high degrees of protection, temperatures and mechanical stress. The range is characterized by the simple Push-Pull locking mechanism, use of conventional D-SUB contact inserts, IP 67 protection and EMC protection.

The VARIOSUB housings offer the space and time-saving Push-Pull locking, which snaps in with a noticeable click. Two integrated lamellar cable screw connections for cable diameters of 3-10 mm provide high cable strain relief.

When locked, the housings fulfill the requirements of IP 67 protection, and require only little operating force thanks to a special profile gasket.

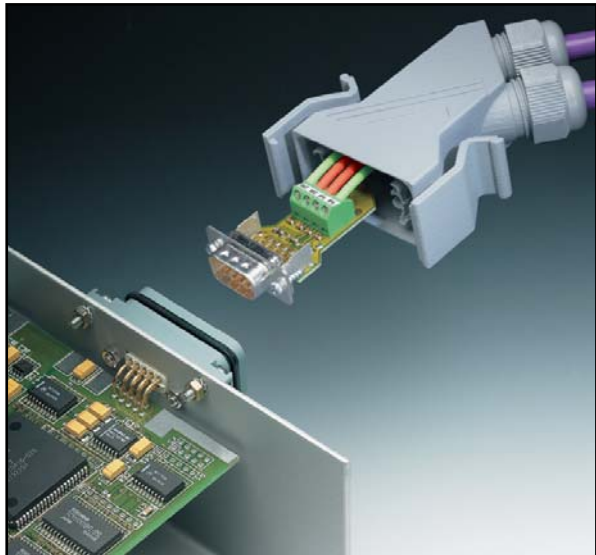
Red snap-in profiles offer up to 16 coding possibilities to avoid incorrect plugging. Marker labeling is also provided for.

Simple logistics due to the small number of individual components and high functionality of the housings help to save costs and increase availability. Mounting flanges on the panel mounting base accept the contact inserts. This allows internal and external wall mounting of the contact inserts.

The male and female inserts in D-SUB 9 format enable 9 data lines and the cable shield to be connected. The connection points are clearly numbered. This facilitates any start-up under field conditions.

Industrial connectors are available for the sleeve and mounting side. They are made with screw connection, for soldering onto printed circuit boards, with a flat-ribbon cable connection and for crimp contacts.

For currents up to 40 A or in combination with signal lines, two versions are available as male and female connectors. The use of these plug connectors saves space on the inside of the device. The contacts are equipped with U-grooves for manual solder connection and cover the maximum possible cross section range.



VARIOSUB D-SUB 9 **Contact Inserts** **Screw Connection**



Description	Type	Order No.	Pcs./Pkt.
Male contact inserts, with PCB and 10 x MPT 0,5 screw connections	VS-09-ST-DSUB/10-MPT-0,5	16 88 37 9	10
Female contact inserts, with PCB and 10 x MPT 0,5 screw connections	VS-09-BU-DSUB/10-MPT-0,5	16 88 39 5	10
Technical data			
Mechanical data			
Insertion force per signal contact	[N]	≤ 3.3	
Extraction force per signal contact	[N]	≤ 2.2	
Insertion/withdrawal cycles		≥ 200	
Material and surfaces			
Insulating body		PBTP	
Contact material		Cu alloy	
Contact surface		Ni/Au	
Electrical data			
Max. amperage	[A]	1	
Operating voltage	[V]	63	
Contact resistance per contact pair	[mΩ]	≤ 2.5	
Insulation resistance	[MΩ]	≥ 5000	
Thermal and climatic data			
Temperature range	[°C]	- 20 to + 80	

VARIOSUB D-SUB 9 **Contact Inserts** **Solder Connection**



Description	Type	Order No.	Pcs./Pkt.
Male contact inserts, solder connection, with straight solder pins, with hole	VS-09-ST-DSUB-EG	16 88 79 3	10
Female contact inserts, solder connection, with straight solder pins, with hole	VS-09-BU-DSUB-EG	16 88 80 3	10
Male contact inserts, solder connection, with angled solder pins, with thread	VS-09-ST-DSUB-ER	16 88 38 2	10
Female contact inserts, solder connection, with angled solder pins, with thread	VS-09-BU-DSUB-ER	16 88 40 5	10
Technical data			
Mechanical data			
Insertion force per signal contact	[N]	≤ 3.3	
Extraction force per signal contact	[N]	≤ 2.2	
Insertion/withdrawal cycles		≥ 200	
Material and surfaces			
Insulating body		PBTP	
Contact material		Cu alloy	
Contact surface		Ni/Au	
Electrical data			
Max. amperage	[A]	1	
Operating voltage	[V]	63	
Contact resistance per contact pair	[mΩ]	≤ 2.5	
Insulation resistance	[MΩ]	≥ 5000	
Thermal and climatic data			
Temperature range	[°C]	- 55 to + 125	

VARIOSUB D-SUB 9 **Contact Inserts** **Flat-Ribbon Cable Connection**



Description	Type	Order No.	Pcs./Pkt.
Male contact inserts, flat-ribbon cable connection, with holes	VS-09-ST-DSUB-FK	16 88 81 6	10
Female contact inserts, flat-ribbon cable connection, with holes	VS-09-BU-DSUB-FK	16 88 92 9	10
Technical data			
Mechanical data			
Insertion force per signal contact	[N]	≤ 3.3	
Extraction force per signal contact	[N]	≤ 2.2	
Insertion/withdrawal cycles		≥ 200	
Material and surfaces			
Insulating body		PBTP	
Contact material		Cu alloy	
Contact surface		Ni/Au	
Electrical data			
Max. amperage	[A]	1	
Operating voltage	[V]	63	
Contact resistance per contact pair	[mΩ]	≤ 2.5	
Insulation resistance	[MΩ]	≥ 5000	
Thermal and climatic data			
Temperature range	[°C]	- 55 to + 125	

VARIOSUB D-SUB 9 **Contact Inserts** **Crimp Connection**



Description	Type	Order No.	Pcs./Pkt.	
Male contact carrier, crimp contact carriers, with thread	VS-09-ST-DSUB-CD-G	16 88 83 2	10	
Female contact carrier, crimp contact carriers, with thread	VS-09-BU-DSUB-CD-G	16 88 84 5	10	
Male contact carrier, crimp contact carriers, with holes	VS-09-ST-DSUB-CD-B	16 88 85 8	10	
Female contact carrier, crimp contact carriers, with holes	VS-09-BU-DSUB-CD-B	16 88 86 1	10	
Accessories				
Turned male crimp contacts, surface gold-plated	AWG 24-20 AWG 28-24	VS-ST-CD-1,0/14,8/0,5 VS-ST-CD-1,0/14,8/0,2	16 88 96 8 16 88 97 1	30
Turned female crimp contacts, surface gold-plated	AWG 24-20 AWG 28-24	VS-BU-CD-1,0/14,4/0,5 VS-BU-CD-1,0/14,4/0,2	16 88 98 4 16 88 99 7	30
Technical data				
Mechanical data				
Insertion force per signal contact	[N]	≤ 3.3		
Extraction force per signal contact	[N]	≤ 2.2		
Insertion/withdrawal cycles		≥ 200		
Electrical data				
Max. amperage	[A]	1		
Operating voltage	[V]	63		
Insulation resistance	[MΩ]	≥ 5000		
Thermal and climatic data				
Temperature range	[°C]	- 55 to + 125		

VARIOSUB D-SUB 9 **Contact Inserts with** **High Current Contacts** **Solder Connection**



Description	Type	Order No.	Pcs./Pkt.
Male contact carrier, for power contacts, 2-pos.	VS-09-ST-DSUB-2P	16 88 41 8	10
Female contact carrier, for power contacts, 2-pos.	VS-09-BU-DSUB-2P	16 88 42 1	10
Accessories			
Male power contact for 20 A, with U-groove solder connection	VS-ST-LK-3,6/22,4/2,6	16 88 24 3	30
Female power contact for 20 A, with U-groove solder connection	VS-BU-LK-3,6/22,8/2,6	16 88 25 6	30
Male power contact for 40 A, with U-groove solder connection	VS-ST-LK-3,6/22,4/4,6	16 88 26 9	30
Female power contact for 40 A, with U-groove solder connection	VS-BU-LK-3,6/22,8/4,6	16 88 27 2	30
Technical data			
Mechanical data			
Insertion/withdrawal cycles	≥ 500		
Material and surfaces			
Insulating body	PBTP GV (UL 94 V0)		
Housing	Steel		
Housing surface	Tin-plated		
Contact material	Cu alloy		
Contact surface	0.8 µm gold over nickel		
Electrical data			
Max. amperage, power contacts	[A]	20 or 40	
Operating voltage	[V]	125	
Contact resistance per contact pair	[mΩ]	≤ 2.5	
Insulation resistance	[MΩ]	≥ 5000	
Specific contact resistance	[Ωcm]	10 ¹⁶	
Specific internal insulation resistance	[KV/mm]	50	
Thermal and climatic data			
Temperature range	[°C]	- 20 to + 80	

Note:

The power contacts must be ordered separately since they are not included in the scope of supply of the contact carriers of combi contact inserts.
One female and one male contact each must be mounted in the VS-09-ST-DSUB-2P and VS-09-BU-DSUB-2P contact carriers.

VARIOSUB D-SUB 9 **Contact Inserts with High Current** **and Signal Contacts** **Solder Connection**



Description	Type	Order No.	Pcs./Pkt.
Male contact carrier, for 1 power contact, with 4 signal contacts, U-groove solder connection	VS-09-ST-DSUB-1P-4S	16 89 00 6	10
Female contact carrier, for 1 power contact, with 4 signal contacts, U-groove solder connection	VS-09-BU-DSUB-1P-4S	16 89 01 9	10
Accessories			
Male power contact for 20 A, with U-groove solder connection	VS-ST-LK-3,6/22,4/2,6	16 88 24 3	30
Female power contact for 20 A, with U-groove solder connection	VS-BU-LK-3,6/22,8/2,6	16 88 25 6	30
Male power contact for 40 A, with U-groove solder connection	VS-ST-LK-3,6/22,4/4,6	16 88 26 9	30
Female power contact for 40 A, with U-groove solder connection	VS-BU-LK-3,6/22,8/4,6	16 88 27 2	30
Technical data			
Mechanical data			
Insertion/withdrawal cycles	≥ 500		
Material and surfaces			
Insulating body	PBTP GV (UL 94 V0)		
Housing	Steel		
Housing surface	Tin-plated		
Contact material	Cu alloy		
Contact surface	0.8 µm gold over nickel		
Electrical data			
Max. amperage, signal contacts	[A]	5	
Max. amperage, power contacts	[A]	20 or 40	
Operating voltage	[V]	125	
Thermal and climatic data			
Temperature range	[°C]	- 20 to + 80	

Note:
The power contacts must be ordered separately since they are not included in the scope of supply of the contact carriers of combi contact inserts.

VARIOSUB D-SUB 9 **Sleeve Housings**



Description	Type	Order No.	Pcs./Pkt.
Plastic sleeve housing, with Push-Pull locking for panel mounting base, with 2 inclined M 16 lamellar screw connections, with 2 screws for fastening the contact inserts	VS-09-T-2M16	16 88 35 3	5
Accessories M 16 cap nut with seal for conductor diameters from 3-7mm for conductor diameters from 5-10mm Cover cap, for vacant PG11 screw connections Coding profile, made of red plastic, mounted in the panel mounting base and sleeve housing (4 profiles for each plug connector), see Fig. 1 Marker labels, for snapping in Protective cover, for covering the contact insert in the panel mounting frame or sleeve housing	VS-M16 (3-6) VS-M16 (5-9) Q-PROT 9/11 CP-HCC 4 ZBN 18: UNBEDRUCKT VS-09-SD	16 88 45 0 16 88 44 7 16 70 23 5 16 00 02 7 28 09 12 8 18 87 08 6	5 5 10 100 10 5
Technical data Insulation material Flammability class acc. to UL 94 Degree of protection Temperature range	PA V0 IP 67 - 20 to + 80		

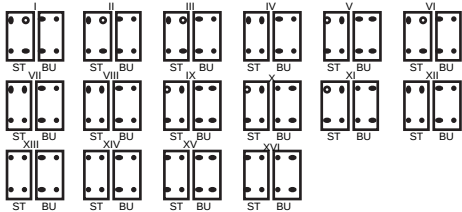
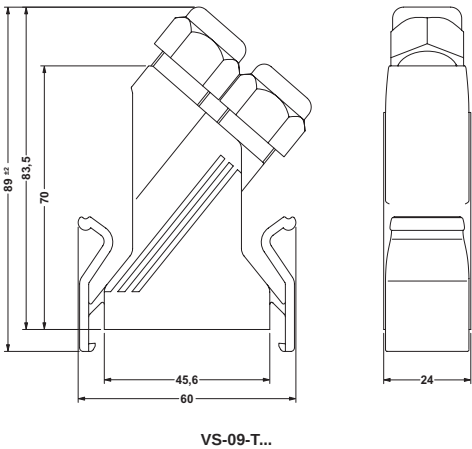


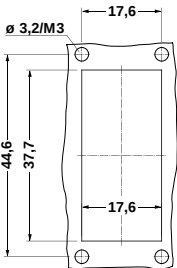
Figure 1: Coding for housings with one contact insert



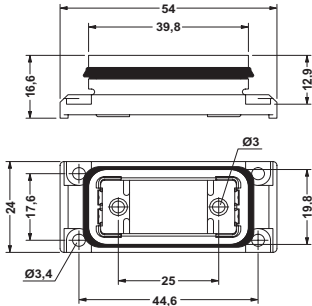
VARIOSUB D-SUB 9 **Panel Mounting Frames**



Description	Type	Order No.	Pcs./Pkt.
Plastic panel mounting frame, with radially-acting profile gasket mounted, with enclosed self-adhesive flat gasket (without mounting screws)	VS-09-A	16 88 36 6	5
Accessories EMC shroud, for contacting a D-SUB contact insert on the mounting side with the outer wall of the housing Protective cover, for covering the contact insert in the panel mounting frame or sleeve housing	VS-09-A-EMV-S VS-09-SD	16 88 46 3 18 87 08 6	5 5
Technical data Insulation material Inflammability class acc. to UL 94 Degree of protection Temperature range	PA V0 IP 67 - 20 to + 80		



Panel cutout: VS-09-A-GC...

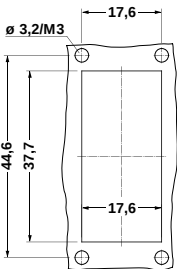


VS-09-A

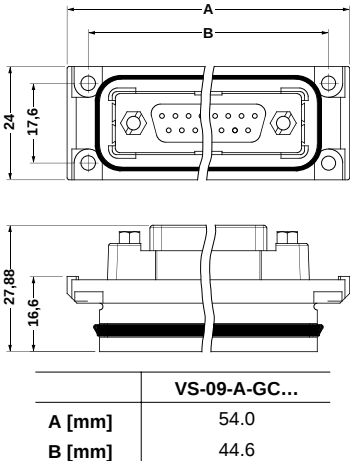
VARIOSUB D-SUB 09 **Panel Mounting Frames with** **Gender Changer**



Description		Type	Order No.	Pcs./Pkt.
Panel mounting frame, with gender changer	Female / Female	VS-09-A-GC-BU/BU	16 89 69 5	5
Panel mounting frame, with gender changer	Male / Male	VS-09-A-GC-ST/ST	16 89 70 5	5
Technical data				
Insulation material		PA		
Inflammability class acc. to UL 94		V0		
Degree of protection		IP 67		
Temperature range	[°C]	- 20 to + 80		



Panel cutout: VS-09-A-GC...

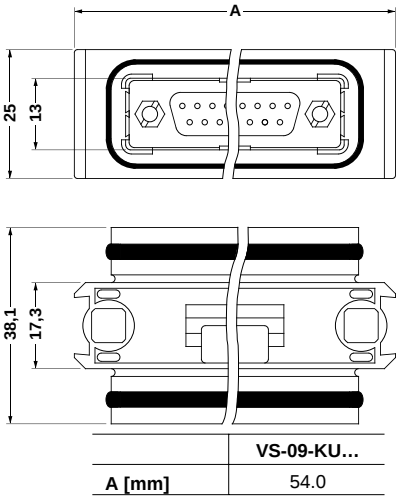


Dimensional drawing: VS-09-A-GC...

VARIOSUB D-SUB 09 **Couplings**



Description		Type	Order No.	Pcs./Pkt.
Coupling, 9-pos.,	Female / Female	VS-09-KU-BU/BU	16 89 63 7	5
Coupling, 9-pos.	Male / Male	VS-09-KU-ST/ST	16 89 64 0	5
Technical data				
Insulation material		PA		
Inflammability class acc. to UL 94		V0		
Degree of protection		IP 67		
Temperature range	[°C]	- 20 to + 80		



Dimensional drawing: VS-09-KU...

Technical drawings of the Panel cutout: VS-09-A-GC... showing front and side views with dimensions.

Front View Dimensions:

- Top width: 17,6
- Top hole diameter: $\varnothing 3,2/M3$
- Left height: 44,6
- Inner height: 37,7
- Inner width: 17,6
- Bottom hole diameter: $\varnothing 3,2/M3$

Side View Dimensions:

- Top width: 54
- Inner width: 39,8
- Left height: 16,6
- Right height: 12,9

Bottom View Dimensions:

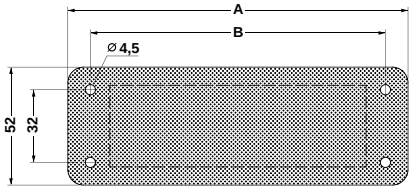
- Left height: 24
- Inner height: 17,6
- Inner width: 25
- Bottom width: 44,6
- Right height: 18,8
- Top hole diameter: $\varnothing 3$
- Bottom hole diameter: $\varnothing 3,4$

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**VARIOSUB Accessories,
Adapter Plates**



Description	Type	Order No.	Pcs./Pkt.
VARIOSUB adapter plates, reinforced, including adapter frame and protective cover 1 x VS 09 2 x VS 09 1 x VS 09, 1 x RJ 45/IP67	VS-ADP16-VS09 VS-ADP24-VS09/VS09 VS-ADP24-VS09/RJ45	16 52 13 0 16 52 16 9 16 52 17 2	1
Accessories			
Hand punch pliers, pliers for punching tool	VS-LWZH	18 89 51 4	1
Square punch, punching tool for cutting out the panel mounting frame	VS-LWZH/24,6/20,1	16 89 52 7	1



Type	A	B
VS-ADP 16...	123	103
VS-ADP 24...	150	130

Table of dimensions for VS-ADP... adapter plates