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.

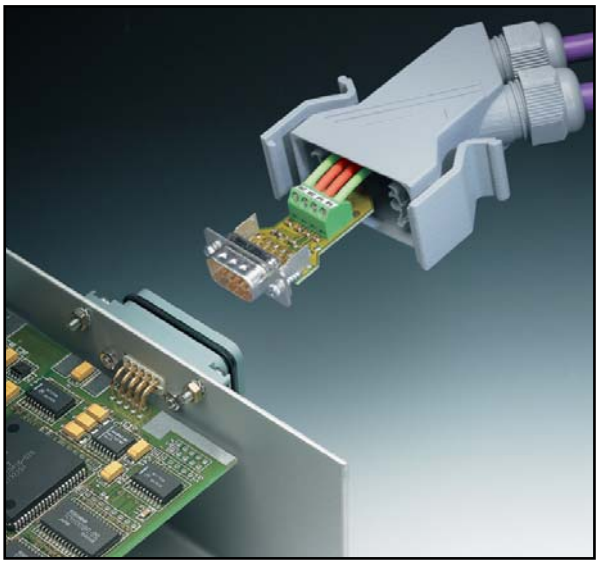
Red snap-in profiles offer up to 16 coding possibilities to avoid incorrect plugging. Marker labeling is also provided for.

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.



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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 climatice 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 climatice 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 climatice 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 climatice 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 ∝m 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 climatice 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 climatice 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	 **VS-M16 (3-6)** **VS-M16 (5-9)**	 **16 88 45 0** **16 88 44 7**	 5
Cover cap, for vacant PG11 screw connections	**Q-PROT 9/11**	**16 70 23 5**	10
Coding profile, made of red plastic, mounted in the panel mounting base and sleeve housing (4 profiles for each plug connector), see Fig. 1	**CP-HCC 4**	**16 00 02 7**	100
Marker labels, for snapping in	**ZBN 18: UNBEDRUCKT**	**28 09 12 8**	10
Protective cover, for covering the contact insert in the panel mounting frame or sleeve housing	**VS-09-SD**	**18 87 08 6**	5

Technical data		
Insulation material		PA
Inflammability class acc. to UL 94		V0
Degree of protection		IP 67
Temperature range	[°C]	- 20 to + 80

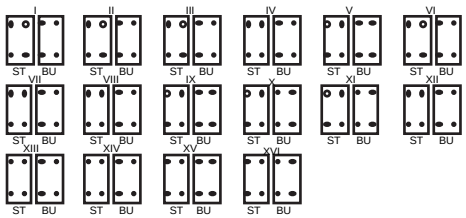
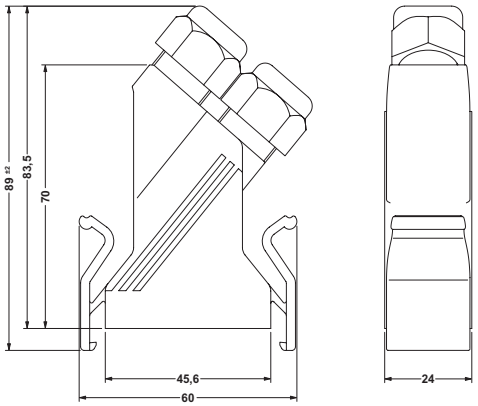


Figure 1: Coding for housings with one contact insert



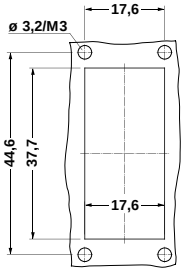
VS-09-T...

VARIOSUB D-SUB 9
Panel Mounting Frames

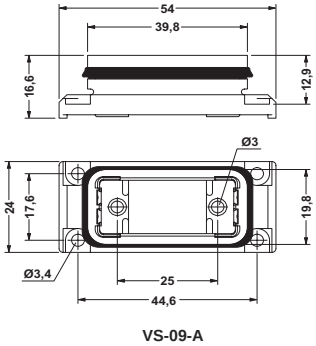


Description	Type	Order No.	Pcs./Pkt.
Plastic panel mounting frame, with radially-acting profile gasket mounted, with enclosed self-adhesive flat gasket (without mounting screws)	**VS-09-A**	**16 88 36 6**	5
Accessories			
EMC shroud, for contacting a D-SUB contact insert on the mounting side with the outer wall of the housing	**VS-09-A-EMV-S**	**16 88 46 3**	5
Protective cover, for covering the contact insert in the panel mounting frame or sleeve housing	**VS-09-SD**	**18 87 08 6**	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...



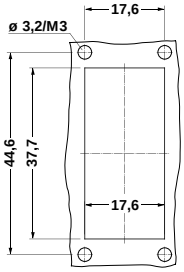
VS-09-A

VARIOSUB D-SUB 09
Panel Mounting Frames with Gender Changer

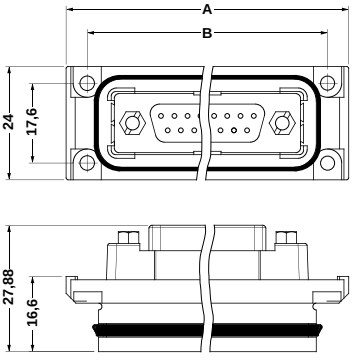


Description		Type	Order No.	Pcs./Pkt.
Panel mounting frame, with gender changer	Female / Female	**VS-09-A-GC-BU/BU**	**16 89 69 5**	5
Panel mounting frame, with gender changer	Male / Male	**VS-09-A-GC-ST/ST**	**16 89 70 5**	5

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...



	VS-09-A-GC…
A [mm]	54.0
B [mm]	44.6

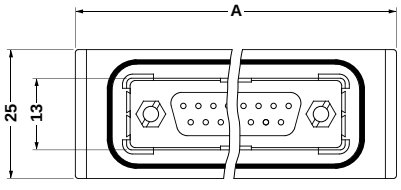
Dimensional drawing: VS-09-A-GC…

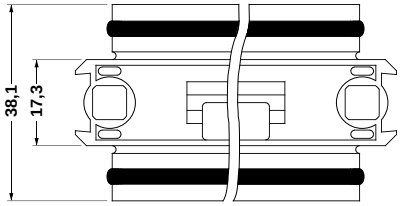
VARIOSUB D-SUB 09
Couplings



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





	VS-09-KU…
A [mm]	54.0

Dimensional drawing: VS-09-KU…

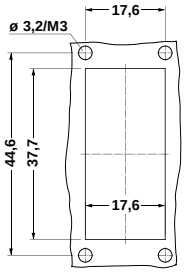
VARIOSUB D-SUB 9
Plug Connector Sets



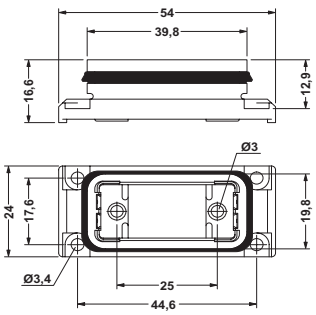


Description	Type	Order No.	Pcs./Pkt.
Set VARIOSUB D-SUB 9, standard version for D-SUB 9 contact inserts, with Push-Pull locking, IP 67	**VS-09-SET-STD**	**16 89 14 5**	1
Set VARIOSUB D-SUB 9, EMC version for D-SUB 9 contact inserts, with Push-Pull locking, IP 67	**VS-09-SET-EMV**	**16 89 15 8**	1
Accessories			
Protective cover, for covering the contact insert in the panel mounting frame or sleeve housing	**VS-09-SD**	**18 87 08 6**	5

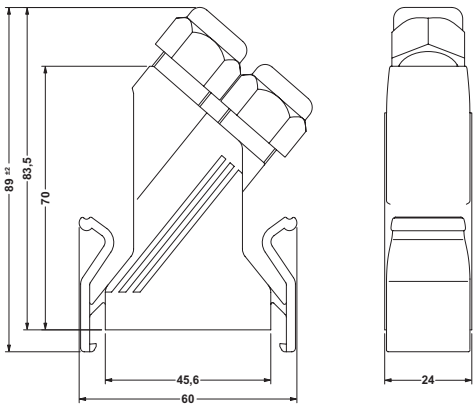
Technical data		
Insulation material		PA
Inflammability class acc. to UL 94		V0
Degree of protection		IP 67
Temperature range	[°C]	- 20 to + 80



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



Dimensions: Panel mounting frame

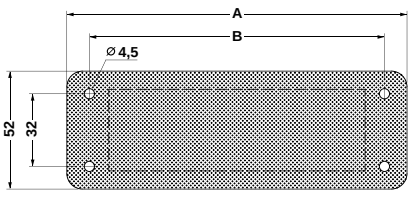


Dimensions: Sleeve housing

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

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