

## VARIOSUB RJ45/IP20 Plug Connectors

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VARIOSUB-RJ45/IP20 was developed for using RJ45 plug connectors in harsh industrial environments. With it, devices for Industrial Ethernet can also utilize the standard plug connectors of the IT world.

The VARIOSUB-RJ45/IP20 plug connector is suitable for use on devices, infrastructural components and control cabinets. It fulfills the requirements of IEC 60332-1 for use in light duty areas and is suitable for Fast Ethernet transmission at 100 Mbit/s. Various female inserts and panel mounting frames are available for the equipment side, while there is a sleeve housing and a male insert for the conductor side.

The female inserts for PCB mounting and the panel mounting frames are built to the standard pitch dimension, which means existing PCB layouts can continue to be used and space-saving equipment designs are possible. In addition, commercially available male inserts can still be used. In this case, there is no need for adapter cables or other special solutions during startup and servicing.

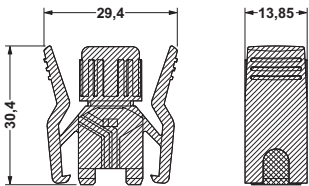
The sleeve with its Push-Pull locking system safeguards the connection against mechanical stress, shocks and vibration. Also, it makes it possible to use cables with a diameter from 5 to 8.5 mm and a core cross section from AWG 24 to AWG 26 as solid or stranded conductors. This locking method saves space and provides ease of accessibility. It can be operated without tools and, when locked, provides the IP 20 degree of protection.



**VARIOSUB RJ45/IP20**  
**Sleeve Housings**



| Description                                                                          | Type              | Order No.  | Pcs./Pkt. |
|--------------------------------------------------------------------------------------|-------------------|------------|-----------|
| <b>Plastic sleeve housing,</b><br>with push-pull locking to the panel mounting frame | VS-8-T-RJ45/IP 20 | 16 88 63 8 | 5         |
| <b>Technical data</b>                                                                |                   |            |           |
| Temperature range                                                                    | -40 to +85        |            |           |
| Material                                                                             | PA                |            |           |
| Inflammability class acc. to UL 94                                                   | V0                |            |           |



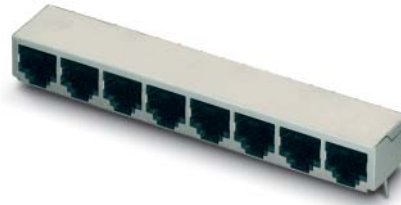
Dimensional drawing; VS-8-RJ45

**VARIOSUB RJ45**  
**Male Insert**

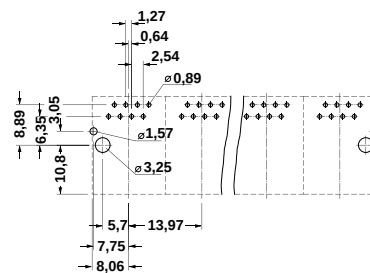


| Description                                                                 | Type                                             | Order No.                | Pcs./Pkt. |
|-----------------------------------------------------------------------------|--------------------------------------------------|--------------------------|-----------|
| <b>Male insert RJ45,</b><br>8-pos., with IDC connection system              | VS-8-ST-RJ45                                     | 16 88 57 3               | 5         |
| <b>Accessories</b>                                                          |                                                  |                          |           |
| <b>Crimping pliers,</b><br>without die<br>die for VARIOSUB RJ45 male insert | <b>CRIMPFOX-LC</b><br><b>CRIMPFOX-LC-RJ 45 S</b> | 12 06 69 6<br>12 07 42 0 | 1         |
| <b>Technical data</b>                                                       |                                                  |                          |           |
| Number of positions                                                         | 8                                                |                          |           |
| Nominal voltage/Nominal current                                             | 60 / 1                                           |                          |           |
| Transmission rate                                                           | 100                                              |                          |           |
| Surge voltage category                                                      | II                                               |                          |           |
| Contamination class                                                         | 2                                                |                          |           |
| Core diameter                                                               | 0.14 - 0.25 / 24 - 22                            |                          |           |
| Cable diameter                                                              | 5 – 8.5                                          |                          |           |
| Temperature range                                                           | -40 to +85                                       |                          |           |
| Inflammability class acc. to UL 94                                          | V0                                               |                          |           |

## VARIOSUB RJ45 Female Inserts for PCB Assembly

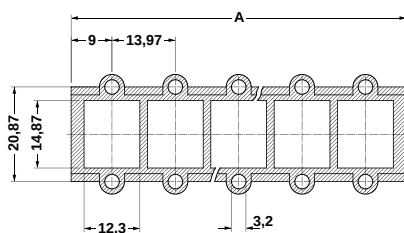


| Description                        |        | Type              | Order No.  | Pcs./Pkt. |
|------------------------------------|--------|-------------------|------------|-----------|
| Female insert RJ45,<br>8-pos.      | 1-pos. | VS-8-BU-RJ45/LP-1 | 16 88 58 6 | 5         |
|                                    | 2-pos. | VS-8-BU-RJ45/LP-2 | 16 88 59 9 |           |
|                                    | 4-pos. | VS-8-BU-RJ45/LP-4 | 16 88 60 9 |           |
|                                    | 6-pos. | VS-8-BU-RJ45/LP-6 | 16 88 61 2 |           |
|                                    | 8-pos. | VS-8-BU-RJ45/LP-8 | 16 88 62 5 |           |
|                                    |        |                   |            |           |
| Technical data                     |        |                   |            |           |
| Number of positions                |        | 8                 |            |           |
| Nominal voltage/Nominal current    |        | 60 / 1            |            |           |
| Transmission rate                  |        | 100               |            |           |
| Surge voltage category             |        | II                |            |           |
| Contamination class                |        | 2                 |            |           |
| Temperature range                  |        | -40 to +85        |            |           |
| Inflammability class acc. to UL 94 |        | V0                |            |           |



Drilling plan: VS-8-BU-RJ 45/LP-...

## VARIOSUB RJ45/IP20 Panel Mounting Frames for Female Inserts for PCB Assembly

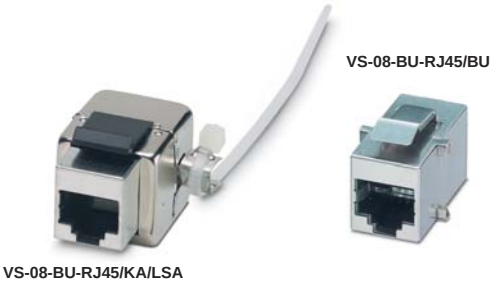


Dimensional drawing: VS-8-A-RJ45/LP-...-IP 20



| Description                                         |        | Dim. A [mm]<br>(see<br>dim. drawing) | Type                   | Order No.  | Pcs./Pkt. |
|-----------------------------------------------------|--------|--------------------------------------|------------------------|------------|-----------|
| Panel mounting frame RJ45,<br>without fixing screws | 1-pos. | 31.97                                | VS-8-A-RJ45/LP-1-IP 20 | 16 88 64 1 | 5         |
|                                                     | 2-pos. | 45.94                                | VS-8-A-RJ45/LP-2-IP 20 | 16 88 65 4 |           |
|                                                     | 4-pos. | 73.88                                | VS-8-A-RJ45/LP-4-IP 20 | 16 88 66 7 |           |
|                                                     | 6-pos. | 101.82                               | VS-8-A-RJ45/LP-6-IP 20 | 16 88 67 0 |           |
|                                                     | 8-pos. | 129.76                               | VS-8-A-RJ45/LP-8-IP 20 | 16 88 68 3 |           |
| Technical data                                      |        |                                      |                        |            |           |
| Material                                            |        |                                      | PA                     |            |           |
| Temperature range                                   |        | [-°C]                                | -40 to +85             |            |           |
| Inflammability class acc. to UL 94                  |        |                                      | V0                     |            |           |

# **VARIOSUB RJ45** **Modular Female Inserts**

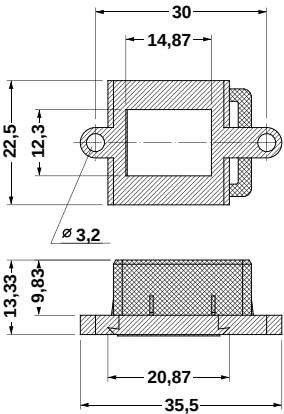


| Description                               | Type                                                   | Order No.                              | Pcs./Pkt. |
|-------------------------------------------|--------------------------------------------------------|----------------------------------------|-----------|
| <b>Female insert RJ45,</b><br>8.pos.      | <b>VS-08-BU-RJ45/BU</b><br><b>VS-08-BU-RJ45/KA/LSA</b> | <b>16 89 06 4</b><br><b>16 89 45 9</b> | 5         |
| <b>Technical data</b>                     |                                                        |                                        |           |
| <b>Number of positions</b>                | 8                                                      |                                        |           |
| <b>Nominal voltage/Nominal current</b>    | 60 / 1                                                 |                                        |           |
| <b>Transmission rate</b>                  | 100                                                    |                                        |           |
| <b>Surge voltage category</b>             | II                                                     |                                        |           |
| <b>Contamination class</b>                | 2                                                      |                                        |           |
| <b>Temperature range</b>                  | -40 to +85                                             |                                        |           |
| <b>Inflammability class acc. to UL 94</b> | V0                                                     |                                        |           |

# **VARIOSUB RJ45/IP20** **Panel Mounting Frames for** **Female Inserts**

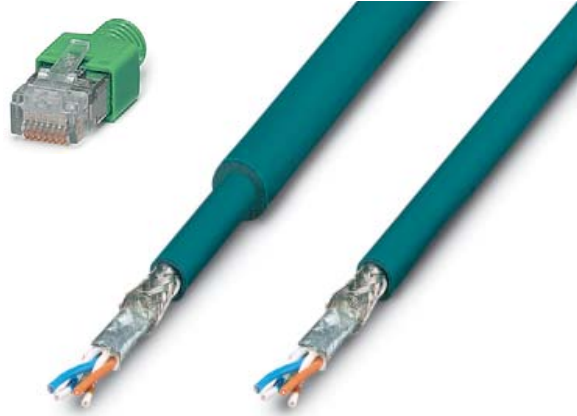


| Description                                                                                 | Type                           | Order No.         | Pcs./Pkt. |
|---------------------------------------------------------------------------------------------|--------------------------------|-------------------|-----------|
| <b>Panel mounting frame RJ45/IP20,</b> without fixing screws,<br>for modular female inserts | <b>VS-08-A-RJ45/MOD-1-IP20</b> | <b>16 89 43 3</b> | 5         |
| <b>Technical data</b>                                                                       |                                |                   |           |
| <b>Material</b>                                                                             | PA                             |                   |           |
| <b>Temperature range</b>                                                                    | -40 to +85                     |                   |           |
| <b>Inflammability class acc. to UL 94</b>                                                   | V0                             |                   |           |



Dimensional drawing: VS-8-A-RJ45/MOD-1-IP 20

## VARIOSUB Ethernet Cables



| Description                                                                                                                                                                                      | Color         | Type                               | Order No.                | Pcs./Pkt. |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------|--------------------------|-----------|
| <b>CAT 5-S/UTP cable</b> (J-02YS(ST)C HP 2 x 2 x 24 AWG), heavy-duty installation cable 2 x 2 x 0.22 mm <sup>2</sup> , solid conductor, shielded, outer sheath: Ø 7.8 mm, inner sheath: Ø 5.2 mm |               | FL CAT5 HEAVY                      | 27 44 81 4               | 1         |
| <b>CAT 5-S/UTP cable</b> (J-LI02YS(ST)C H 2 x 2 x 26 AWG), light-duty flexible installation cable 2 x 2 x 0.14 mm <sup>2</sup> , stranded, shielded, outer sheath: Ø 5.2 mm                      |               | FL CAT5 FLEX                       | 27 44 83 0               | 1         |
| <b>CAT 5-S/UTP cable</b> , (J-LI02YS(ST)C H 4 x 2 x 26 AWG), light-duty flexible installation cable 4 x 2 x 0.14 mm <sup>2</sup> , stranded, shielded, outer sheath: Ø 5.2 mm                    |               | VS-CAT5-4x2x26AWG                  | 16 52 10 1               | 1         |
| <b>Preassembled cable</b> , preassembled at both ends with VARIOSUB RJ45 or RJ45 connector, (see ordering example <sup>1)</sup> )                                                                |               | VS-RJ45 CONF/...                   | 16 89 34 9               | 1         |
| <b>Accessories</b>                                                                                                                                                                               |               |                                    |                          |           |
| <b>Bend-protection sleeve<sup>2)</sup></b> , for male insert VS-08-ST-RJ45, if no VARIOSUB sleeve is used                                                                                        | gray<br>green | VS-08-KS/GR<br>VS-08-KS/GN         | 16 89 21 3<br>16 89 22 6 | 5         |
| <b>Crimping pliers</b> , without die for VARIOSUB RJ45 male insert                                                                                                                               |               | CRIMPFOX-LC<br>CRIMPFOX-LC-RJ 45 S | 12 06 69 6<br>12 07 42 0 | 1         |

<sup>1)</sup> Minimum length: 0.2 m, Maximum length: 50 m FLEX, 100 m HEAVY, Minimum order quantity: 10 pcs.; steps: 0.1 m

<sup>2)</sup> We recommend the gray color for connections that are not crossed (Line = Li) and the green color for crossed connections (Crossover = Co).

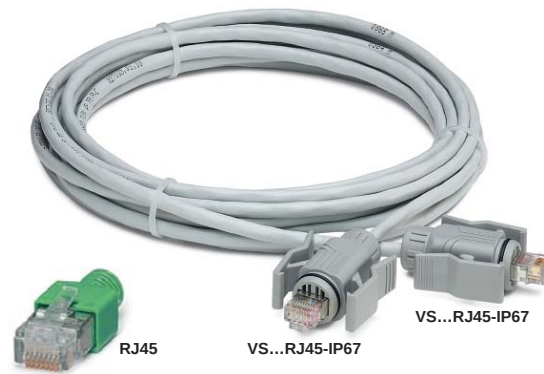
### Ordering example for cable with connector assembly

Heavy-duty installation cable, preassembled at one end with the VARIOSUB-RJ45/IP67 connector and at the other end with a standard RJ45 connector and a green bend-protection sleeve as crossover connection, 3.5 m long

| Qty. | Order No.  | Cable type   | Connection              | Head 1                                | Head 2                     | Cable type                             | Length of cable in meters |
|------|------------|--------------|-------------------------|---------------------------------------|----------------------------|----------------------------------------|---------------------------|
| 1    | 16 89 34 9 | VS-RJ45 CONF | CO                      | VS IP67                               | RJ45                       | CH                                     | 3,5                       |
|      |            |              | Crossover Line<br>CO LI | VS-RJ45 IP67<br>VS-RJ45 IP20<br>RJ-45 | VS IP67<br>VS IP20<br>RJ45 | FL CATS HEAVY<br>FL CATS FLEX<br>CH CF |                           |

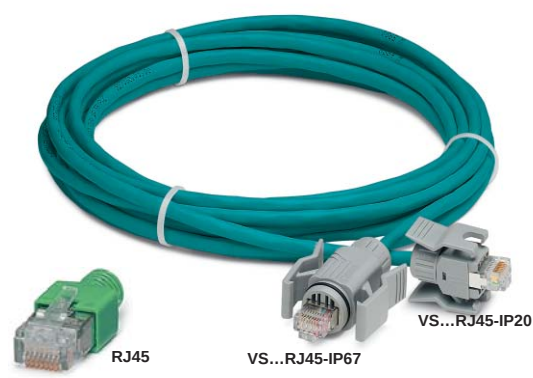
# VARIOSUB

## Ethernet Cables, Preassembled



| Description                                                                                                                                                                                                   | Cable length<br>[m] | Type                                                                                                  | Order No.                              | Pcs./Pkt. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------|-----------|
| <b>Ethernet cable,</b><br>Daetwyler Uninet 5502 flex, 4 x 2-pair, with sleeve housing VS-08-T-RJ45/IP67 at both ends, shielded, preassembled, connection not crossed (Line)                                   | 1<br>2<br>5         | VS-08-VS67-VS67/4P-AWG26-OF/1,0<br>VS-08-VS67-VS67/4P-AWG26-OF/2,0<br>VS-08-VS67-VS67/4P-AWG26-OF/5,0 | 16 89 37 8<br>16 89 38 1<br>16 89 39 4 | 1         |
| <b>Ethernet cable,</b><br>Daetwyler Uninet 5502 flex, 4 x 2-pair, with sleeve housing VS-08-T-RJ45/IP67 and RJ45 connector with bend-protection sleeve, shielded, preassembled, connection not crossed (Line) | 1<br>2<br>5         | VS-08-VS67-RJ45/4P-AWG26-OF/1,0<br>VS-08-VS67-RJ45/4P-AWG26-OF/2,0<br>VS-08-VS67-RJ45/4P-AWG26-OF/5,0 | 16 89 40 4<br>16 89 41 7<br>16 89 42 0 | 1         |
| <b>Ethernet cable,</b><br>VS-CAT5-4x2x26AWG, 4 x 2-pair, with sleeve housing VS-08-T-RJ45/IP67 at both ends, shielded, preassembled, connection not crossed (Line)                                            | 1<br>2<br>5         | VS-08-VS67-VS67/4P-AWG26-CF/1,0<br>VS-08-VS67-VS67/4P-AWG26-CF/2,0<br>VS-08-VS67-VS67/4P-AWG26-CF/5,0 | 16 52 01 7<br>16 52 02 0<br>16 52 03 3 | 1         |
| <b>Ethernet cable,</b><br>VS-CAT5-4x2x26AWG, 4 x 2-pair, with sleeve housing VS-08-T-RJ45/IP67 and RJ45 connector with bend-protection sleeve, shielded, preassembled, connection not crossed (Line)          | 1<br>2<br>5         | VS-08-VS67-RJ45/4P-AWG26-CF/1,0<br>VS-08-VS67-RJ45/4P-AWG26-CF/2,0<br>VS-08-VS67-RJ45/4P-AWG26-CF/5,0 | 16 52 04 6<br>16 52 05 9<br>16 52 06 2 | 1         |

**VARIOSUB**  
**Ethernet Cables, Patch Cables,**  
**Preassembled**



| Description                                                                                                                                 | Types of plug connectors to cable ends |                | Type                                 | Order No.         | Pcs./Pkt. |
|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|----------------|--------------------------------------|-------------------|-----------|
| <b>Ethernet cable,</b><br>Patch cable FL CAT5 FLEX,<br>2 x 2-pair, shielded, preassembled,<br>connection not crossed (Line),<br>Length: 5 m | VS-RJ45/IP67                           | – VS-RJ45/IP67 | <b>VS-08-LI-VSIP67-VSIP67-CF-5,0</b> | <b>16 89 57 2</b> | 1         |
|                                                                                                                                             | VS-RJ45/IP67                           | – VS-RJ45/IP20 | <b>VS-08-LI-VSIP67-VSIP20-CF-5,0</b> | <b>16 89 58 5</b> |           |
|                                                                                                                                             | VS-RJ45/IP67                           | – RJ45         | <b>VS-08-LI-VSIP67-RJ45-CF-5,0</b>   | <b>16 89 59 8</b> |           |
|                                                                                                                                             | VS-RJ45/IP20                           | – VS-RJ45/IP20 | <b>VS-08-LI-VSIP20-VSIP20-CF-5,0</b> | <b>16 89 60 8</b> |           |
|                                                                                                                                             | VS-RJ45/IP20                           | – RJ45         | <b>VS-08-LI-VSIP20-RJ45-CF-5,0</b>   | <b>16 89 61 1</b> |           |
|                                                                                                                                             | RJ45                                   | – RJ45         | <b>VS-08-LI-RJ45-RJ45-CF-5,0</b>     | <b>16 89 62 4</b> |           |

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